AN ASSESSMENT OF A QUICK RESPONSE CASE STUDY IN AN APPAREL TEXTILE PIPELINE IN THE WESTERN CAPE

BY

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Declaration

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

Signed by candidate Date 19/4/01

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Abstract

The aim of this thesis was to establish whether South African companies implementing Quick Response in an apparel textile pipeline moved towards flexible specialisation and post-Fordism or a neo-Fordist method of production. I also determined whether these companies implemented Quick Response according to the theory or to suit their environment.

Manufacturing

Fordism or mass production became the most important manufacturing system in the early 20th century. When it was in crisis a new era, post-Fordism, was born. The change in manufacturing in post-Fordism was labelled flexible specialisation. It utilises new technology and flexible ways of organising work to help companies become more competitive. However, some people believed the new era was not new, but rather a modification of Fordism. They called this modified system neo-Fordism, consisting of both Fordist and post-Fordist features.

The clothing and textile industries

South Africa's textile and clothing industries are faced with increased competition due to the country's re-entry into the world economy and the subsequent drop in tariffs. One way for textile and clothing companies to compete is by developing a Quick Response approach – a type of flexible specialisation. It could help these companies fight cheaper imports as it cuts lead times and allows companies to use their local proximity to deliver the right products at the right time.

Methodology

Using qualitative research methods I attempted to describe Quick Response in this pipeline by finding out what it is, what its features are, how it is implemented and

what its effects are. I combined descriptive and explanatory elements in my study. I used semi-structured interviews with open-ended questions to interview workers, middle and upper management of the companies in the pipeline. I also used non-participant observation by attending meetings these companies held.

Quick Response or not?

The system that this pipeline implemented has some of the main trademarks of Quick Response. The companies improved their relationships, shared some information, cut the lead times, and relied on sales figures to determine production. All of this resulted in an increase in sales, Quick Response's ultimate goal. However, this system lacked many features of Quick Response such as worker involvement, full information sharing, Pareto improving measures to ensure no company is worse off than before, and cutting lead times constantly.

Despite this I still believe this system could be classified as Quick Response as it was mainly about cutting lead times and this pipeline did that in a small way.

Post- or neo-Fordism?

Although these companies introduced elements of Quick Response, Fordist production features were still evident. These include manufacturing with long runs, just-in-case or safety stock, power differentials, mistrust, managerial prerogative, and large wage gaps.

It is clear that Quick Response as described in the theory is a type of flexible specialisation, which is the change in manufacturing in the post-Fordist era. However, the version used in this pipeline contained many elements of Fordist production combined with post-Fordist methods. So the conclusion is that the companies who implemented Quick Response moved towards a neo-Fordist method of production. Only when they import Quick Response as an integrated package might their methods be described as post-Fordist.

List of abbreviations

ANC:	African National Congress
CAD:	Computer-aided Design
CEO:	Chief Executive Officer
CMT:	Cut-make-and-trim
CNC:	Computer Numerically Controlled
COSATU:	Congress of South African Trade Unions
CSS:	Central Statistical Services
DI:	Delivery Instruction
EDI:	Electronic Data Information
GATT:	General Agreement on Tariffs and Trade
GEAR:	Growth, Employment and Redistribution
ISP:	Industrial Strategy Project
JIT:	Just-in-time
LMC:	Labour Market Commission
MFA:	Multi-fibre Arrangement
NPI:	National Productivity Institute
NUMSA:	National Union of Metalworkers of South Africa
QR:	Quick Response
RDP:	Reconstruction and Development Plan
SACTWU:	Southern African Clothing and Textile Workers Union
SKU:	Stock-keeping Unit
TQM:	Total Quality Management

Chapter 1 Introduction

'Twenty years ago everything seemed so clear-cut...The international division of labour divided the industrialised nations from the rest of the world. [They] exported manufactured goods; the under-developed countries exported mineral or agricultural raw materials, or migrant labour...It was all a matter of stages of economic growth; the underdeveloped countries were simply "behind" the industrialised countries. It would not be long before they reached the industrial age...with integration into the world market speeding up the process' (Alain Lipietz, 1987:1-2).

Lipietz's quote sows the seeds for many questions: Has manufacturing changed in the last twenty years? Is South Africa catching up with the industrialised countries? Is it being threatened by increased competition? What about its clothing and textile industries? Are these industries adopting measures enabling it to compete?

1.1 Changing manufacturing production systems

What is manufacturing production systems' recent history? Bessant (1991:35) says that Fordism became the most important and pervasive manufacturing production system in the early twentieth century because of its impact on productivity.[1] When there was a demand for huge numbers of new products the efficient mass production system established by Henry Ford had the capability to supply what was needed. However, the Fordist system was in crisis in the mid-1970s. The reasons for this were the saturation of mass markets, the emergence of rigidities in the labour process (e.g. the wage explosion) and the growth of certain developing countries. The latter resulted in more competitive players in the world arena. With the age of mass production in a crisis a new regime of accumulation emerged in the mid-1970s.

For Amin (1994:1) this change occurred in the heart of modern industrialised economies and societies. Technological, social, institutional and market forces

1 Not everyone accepts Fordism as the dominant method of production at the time. Wood (1989:29) criticises theorists for their continual use of Fordism as a *'benchmark of the past'*.

caused a break in capitalism's development, which resulted in a drastically different structure compared to the period after World War II. Many theorists agree with this observation, describing this phase of capitalist development since the mid-1970s with new labels. Piore and Sabel (1984) call it the *'second industrial divide'*, while Bessant (1991:8) refers to it as the *'fifth wave'*. For many it is the post-Fordist age, where a clean break has been made with Fordism.

However, not everyone agrees with the assessment of a break with Fordism. This so-called break is sometimes viewed rather as a modification or refinement. Aglietta (1976) and Hyman and Streeck (1988) dispute the existence of a post-Fordist age. The term neo-Fordist, which does not imply a total break with the mass production system, is more acceptable to these critics. It incorporates features of both Fordism and post-Fordism.

Allen (1992:184), describing the debate over the end of Fordism, regards the questions to be what kind of manufacturing and product demand has replaced mass production and mass demand.

1.2 Flexibility

Hirst and Zeitlin (1991:22-23) identify three main theories, which address the changes in manufacturing, technology and business: regulation theory, flexible specialisation and other variants of post-Fordism. The most prominent of these is flexible specialisation. Piore and Sabel's *'The Second Industrial Divide'* (1984) introduced the term 'flexible specialisation'. Its main argument was that methods of production are changing, substituting Taylorist and Fordist trends with new forms of organising work. These 'new forms' are coupled with technology and a changed international capitalism. Yet, Bezuidenhout (1997) argues that often in South Africa these changes are not new methods of production, only new methods of control in the capitalist labour process.

Allen (1992:170) continues in Piore and Sabel's footsteps by stating that the 'new' economy is organised around flexible forms of production, concerning the technologies used and the kind of work expected. The aim of flexible production is to be able to supply the greater diversity that consumers now want. It is a way to be able to address fragmented market tastes. Contrary to the era of mass production, the role of the Jones' has changed. The idea is not to just keep up anymore, but to be totally different.

Why does manufacturing need to be flexible? A flexible manufacturing system will provide organisations with closer links between their production capabilities and the changing markets. Previously organisations were production-dominated, where the need for long production runs dictated what was most profitable to sell. Flexible manufacturing has changed this by fitting products exactly to the changing market needs (Clutterbuck, 1985:xii). Flexibility also entails changing the relationships between organisations.

Bessant (1991:267) says that power-based relationships where a hierarchical dependence exists are becoming obsolete. In its place partnerships are established. These contain a sense of mutual development. Yet, with increased competition retailers are becoming more powerful. They can now demand better service, better quality products, better support and quicker delivery. Because retailers can now play a larger role in what and when manufacturers produce, the latter are using supply and distribution chain management more often. So instead of inventory being held 'just in case' of problems, the move is to a 'quick response' by the manufacturer and the arrival of products 'just in time' to be sold (Bessant, 1991:21).

Flexibility in work organisation could possibly increase the levels of productivity, which could assist South Africa in becoming more competitive in international markets. If this can be achieved, economic growth could increase. One of the ways of achieving growth is through an export-oriented manufacturing sector (Maree, 1991:76-77). But in South Africa there is not any confidence in this sector. Millward (1995:39) points out that the South African stock market does not believe in the

future of local manufacturing: the price/earnings ratio of textile and motor manufacturers are around six or seven, while average price earnings in the retail and leisure sectors are twenty. Banks and the financial services sector have price earnings of thirty-five. Clearly the stock market expects South African manufacturing to disappear soon. Yet the labour intensity evident in the textile and clothing and motor industries makes the social implications of these industries going to ground unbearable to imagine (Millward, 1995:39).

The 'Presidential Commission to Investigate Labour Market Policy' or Labour Market Commission (LMC) (1996) suggests that South African manufacturers become more flexible, especially in their work organisation. It is essential that this flexibility be combined with security. If business and government show a commitment to labour market security (protection against arbitrary loss of employment) workers are more likely to accept flexibility in work organisation. Unless flexibility, coupled with security, is bargained, it could result in short-term gains for one side, which could damage long-term relationships (LMC, 1996:12).

1.3 A new response for textile and clothing

Whether Fordism was dominant or not, Bessant (1991:36) argues that new responses are needed in current day manufacturing where competition is increasing and markets are changing. The responses should be in the form of changes in technology and organisation, while sustaining productivity growth. Some companies could respond by doing nothing, not believing that markets have changed. This could lead to disaster. Another response is that manufacturing has become obsolete and that only service industries will deliver economic growth in the future. The problem with this view is that the supposed shift to a post-industrial society where manufacturing becomes uncompetitive is disputed. Using the available technology, decisions can be made to implement a strategy that brings about a rebirth in manufacturing (Bessant, 1991:36-37).

The shift to post-industrialism is probably more relevant to the countries of the 'north'. What remains true is that South Africa's manufacturing industry, more specifically the textile and clothing industries are faced with enormous hurdles.

Maree (1994:7) identifies the following stumbling blocks in the way of the textile and clothing industries: South Africa's re-entry into the world economy; the General Agreement on Tariffs and Trade (GATT) which stipulates that local tariff protection should be halved over a twelve year period; the history of conflict between these two industries over the levels of protection; and the clashes with the state over the levels and forms of protection granted them. The latter was resolved in June 1995 with the announcement of a Trade and Industry tariff proposal (Finance Week, 1995a). More challenges and possible solutions will be discussed in chapter two.

According to the Bilateralism Review (1994:81) the following are problems evident in the South African textile and clothing industries: they are unable to source all inputs at world prices; since 1989/90 profitability has gone down; they cannot achieve a competitive cost/productivity balance; technology and machinery have become outdated; wage rates are not competitive; and training is not a priority. Coupled with this is the fact that the apparel textile pipeline is one of the longest in the world. A United States study found that 85 percent of the time is spent in storage (Kurt Salmon Associates, date unknown). This adds to the cost of the product. If organisational efficiency can be increased, stock levels reduced and work-in-progress time reduced those companies and sectors in the pipeline can survive and might even prosper. One way of achieving this is to develop a Quick Response approach (Industrial Strategy Project (ISP), 1994:71).

Quick Response results in '*having the products the customer wants, in the right place, at the right time and at the right price*' (Hunter, 1990:1). It is an operational philosophy that employs procedures to maximise the profitability of the apparel textile pipeline. It has many elements and requirements. These will be discussed in chapter two. The most important feature of Quick Response is that it uses sales to final customers (at the retailer) to determine production activities and decisions. This

is possible because of the linking of production and distribution companies in the pipeline (Schonberger, 1996:23).

1.4 Aim and outline

Flexible specialisation or neo-Fordism? The aim of this thesis is to establish whether the South African companies implementing Quick Response in an apparel textile pipeline are moving towards flexible specialisation. Or are they actually in a neo-Fordist method of production?

To answer the research question, it is necessary to establish whether this pipeline is in actual fact implementing Quick Response as described in the theory, which mostly originates from northern industrialised countries. Maybe local companies have adapted Quick Response to suit their environment. If they have, can Quick Response then still help them compete with cheaper imports and so ensure the sustainability of the local industries?

In chapter two I will attempt to make sense of the theory and debates around flexibility. Concepts such as post-Fordism, neo-Fordism, flexibility and flexible specialisation are often used without a sound understanding of what each means. Some are employed interchangeably, while others are used as opposites. I will also discuss the applicability of these concepts for manufacturing. One of the reasons for these debates is the continued increase in competition. I will examine this and the impact of globalisation on manufacturing. This will be followed by a look at manufacturing in South Africa: the threats and opportunities it faces.

Chapter three concerns the textile and clothing industries: the global picture and the local situation. Thereafter I will discuss solutions for these industries' many problems. One such solution is Quick Response. Can it assist the South African apparel textile pipeline as it did in the United States? I will analyse the different elements and possible benefits of Quick Response.

Chapter four presents the methodology that was used to evaluate the apparel textile pipeline and its implementation of Quick Response. The reasons for its use, as well as the strengths and weaknesses of the methods, will follow. When I set out studying Quick Response my first aim was to establish exactly what it is and how it works. Secondly, I tried to determine what the economic gains and benefits would be for each company. Thirdly, I attempted to establish what change there would be in work organisation, especially for the textile mill and the garment manufacturer. Fourthly, I tried to assess the changes and implications that the adoption of Quick Response would bring for workers and their relationships with the management. Fifthly, I used this project to make some recommendations on how to effectively run Quick Response in a company. Finally, I did an analysis of the strengths, weaknesses, opportunities and threats that resulted from this project. I will conclude the chapter with a discussion of the validity of my data and the ethics involved in the study.

Chapter five contains a description of the data gathered and an analysis of it. In this chapter I will refer to the differences and similarities between the data and the theory. Chapter six, my conclusion, will try to establish whether the changes in production in this pipeline constitutes Quick Response as described in the theory or whether it is a South African version suited to local circumstances. I will also give my verdict on whether this project was a type of flexible specialisation (as Quick Response is described in the literature) or a different type of work organisation.

Chapter 2 Theory

Quick Response is often referred to as a type of flexible specialisation. Thus, before I enter into a discussion on Quick Response, it is essential to establish what flexible specialisation is. But before this egg there is another chicken: post-Fordism. Some authors use post-Fordism and flexible specialisation, as synonyms while others perceive there to be a different relationship between the two. In this chapter I will attempt to make sense of these two concepts, as well as related concepts such as Fordism, neo-Fordism and flexibility.

Hirst and Zeitlin (1991:22-23), discussing the relationship between post-Fordism and flexible specialisation, emphasise that there are very real differences between the two and yet there are wide-spread assumptions in political and academic debate that they are similar. They (1991:1-2) say that confusion can be eliminated when manufacturing is analysed. Fordist organisation was prevalent from the 1940s until the 1970s when post-Fordist work organisation replaced it. Hirst and Zeitlin (1991:2) identify three approaches to post-Fordist industrial change: flexible specialisation, regulation theory and other variants of post-Fordism. Although there is a superficial similarity between the theories, there are many fundamental differences. Hirst and Zeitlin (1991:22) say that the three theories all address the question of changes in methods of manufacturing organisation, but each makes distinct claims about what and how much have changed.

Ewert (1992:3) on the other hand describes the concept of post-Fordism, when employed in a productionist sense, as virtually identical to Hirst and Zeitlin's (1991) flexible specialisation. He (1992:2) explains this by pointing out that many writers' use Fordism as the benchmark for explaining post-Fordism. Fordism is a system of mass production and mass consumption where labour, business and the state are involved at macro level. This regime of accumulation experienced some problems in the early 1970s and post-Fordism was born. It refers to the move away from standardised mass production where economies of scale, a strong division of labour and dedicated machinery are used. In its place, flexible machinery and a flexible

multi-skilled work force produce smaller batch runs of specialised products for niche markets (Greig in Ewert, 1992:3). It is this definition of post-Fordism that is very close to Hirst and Zeitlin's (1991) flexible specialisation.

For the sake of this thesis, post-Fordism is a change in the regime of accumulation from Fordism, whereas flexible specialisation is a change within a company or organisation within the post-Fordist era. Regime of accumulation refers to a set of regularities at macro level that enable (or not) the flow of the process of capital accumulation. These regularities include norms pertaining to the labour process; relationships between branches of the economy; rules of management; '*principles of income sharing between wages, profits and taxes*'; norms of consumption and patterns of demand in the markets; and other aspects of the macro-economy (Amin, 1994:9).

Post-Fordism is a wide concept and includes other aspects of society, whereas flexible specialisation concerns changes in production on the floor and in other departments of a company or organisation. Flexible specialisation is one way of looking at the change in the regime of accumulation (what many writers describe as post-Fordism).

2.1 Neo-Fordism or post-Fordism?

In the preceding section some of the concepts that I will use in this thesis were defined. In this section and sections 2.2 and 2.3 I will analyse the concepts in much more detail.

Wood (1989:25) says some writers use post-Fordism because they have detected a reskilling and fusing of vertical relations. This is in contrast to the deskilling and hierarchical relations where power was in the hands of the technocratic elite in Fordism or its variations. Rather it consists of teamwork, the merging of direct and indirect work, the development of supervisory powers to non-supervisory jobs and the disappearance of the distinction between production and white-collar work. This

is a clear departure from Fordism and Taylorism, with its separation of roles. Moreover, Wood (1989:26) observes that post-Fordism is used to describe more than changes in the labour process, but rather changes in the forms of regulation and accumulation. It is important to note that not all the new forms of production lead to post-Fordism and flexible specialisation. One such form is neo-Fordism, which is not just a transitional state after Fordism. Some firms might see it as a viable strategy (Wood, 1989:27). Smith (in Thompson, 1989:219) describes neo-Fordism as *'a new equilibrium between production and consumption in which there is continuity with mass production with respect to aspects of skill and control, but more flexible and decentralised methods for both workforce and technology to match differentiated and turbulent markets'*. It thus constitutes an effort to move towards post-Fordism but elements of Fordist production are maintained.

Neo-Fordism and post-Fordism differ in the way that new technology is utilised. In the former it is used to save labour and improve quality. The horizontal and vertical division of labour, found in Taylorism, might still be prevalent. However, it is a fallacy to suppose that there is a clear distinction between the two concepts. The fact that neo-Fordism exists somewhere between Fordism and flexibility does not mean that by analysing the labour process and technology used one can necessarily identify a certain trend (Wood, 1989:27-28).

As was mentioned, post- and neo-Fordism use Fordism as a benchmark. In order to grasp the former two concepts, it is necessary to discuss Fordism. The first two decades after World War II saw growth, economic prosperity and social stability in the western industrialised countries. Inflation was moderate and unemployment low. However, in the late 1960s the bubble burst. A general crisis had developed in the industrial system. Ewert (1992:3) identifies declining productivity growth, the divergence between wage growth and productivity decline, and the relocation of labour-intensive organisations to low-wage countries as contributing factors to the crisis. At micro level the problems were poor quality control and an inability to co-ordinate assembly and delivery in a global market. Other factors that contributed to the crisis were social unrest, raw material shortages, rapid inflation, an increase in

unemployment, the challenge from Japan and the Asian tigers (South Korea, Taiwan, Singapore and Hong Kong) and finally economic stagnation. This raised questions about the institutions that initially brought prosperity. Piore and Sabel (1984:166) identify two reasons for this crisis: firstly there were external shocks to the macro economy and its institutions and secondly, the institutions of the time did not have the capacity to deal with the changes in production technology. The system that delivered this initial prosperity was Fordism. It reached its pinnacle in advanced capitalist societies after World War II.

According to Rainnie (1991:45) it is characterised by the semi-automatic assembly line which is based on four principles: standardised products, which meant that parts and tasks could also be standardised; mechanisation of similar tasks resulting in special machinery for each model; remaining tasks were subject to Taylorism or scientific management which fragmented all tasks and subjected them to time and motion principles; and the movement of products from worker to worker instead of vice versa. Bessant (1991:19) adds more features to this system which started in Henry Ford's car plants, but spread to other industries in the 1930s: standardisation of control over the labour process; uniform output rates, where the speed of the line determined all activity; payment and incentive schemes based on productivity; the elimination of worker discretion and passing of control to specialists; a strict hierarchy with a heavy reliance on rules and procedures; and the training of operators to do specialised tasks, thus increasing the division of labour.

Amin (1994:9) describes Fordism as the '*age of intensive accumulation with monopolistic regulation of the economy*'. It has a distinctive type of labour process where semi-skilled workers operate assembly lines. It involves mass production, although not all workers are directly concerned with it. As a regime of accumulation, it moves in a circle where growth is based on mass production, increased productivity is based on economies of scale, increased wages linked to productivity, increased mass demand due to higher wages, increased profits based on full utilisation of capacity; and increased investment in improved mass production equipment and techniques (Jessop in Amin, 1994:9). Tomoney (1994:158)

elaborates on Taylorism, which was often used with Fordism: it was based on the separation of conception and execution and extreme task fragmentation. This increased managerial control and brought management closer to the ultimate work simplification. This coupled with the specialised training of Fordism, made workers even more dispensable.

Mathews (1989:22) relates that mass production was poised to dominate as new mode of production, but it was still threatened by the skills and knowledge that craft workers had. Along came scientific management or Taylorism, the ideology that Fordism lacked. By taking away the skills of the craft worker Taylorism would gain control for management. This was done by dictating to each worker exactly how work was to be done. There are three principles to this system: dissociation of the labour process from the skills of the workers, hence management had a monopoly on all knowledge and skills; separation of conception from execution, i.e. taking all brainwork off the shop floor into the planning department; and then using the two principles to control each detail of the labour process through complete written instructions (Mathews 1989:23).

But, as was discussed earlier, economic disorder resulted and questions were being asked of this industrial system. Piore and Sabel (1984:183) ascribe the disorder to a crisis of supply that later turned into a crisis of demand. The former was caused by labour shortages in the capitalist societies; food shortages brought about by poor Soviet harvests and the oil shortages in the 1970s. The consequence of those shortages was an inflationary spiral. As a result, a crisis of demand followed with slow growth, minimal rise in productivity and increased unemployment the consequences. Most importantly, mass markets for standardised products broke up. This lead to a decline in the rate of productivity increases and slower growth. The saturation of mass markets made it more difficult to increase economies of mass production in domestic markets. The alternative for industrialised countries was to export to other industrialised countries and the developing world (Piore and Sabel, 1984:183-184). But questions continued about this mode of production. It was realised that saturated markets needed another method of production. However, to

equate any change in work organisation to a move to post-Fordism or non-Taylorism would be foolish. Also, to talk about a universal change would be incorrect: it depended on country, industry and even company. The focus will now fall on post-Fordism, after which neo-Fordism will be analysed.

According to Allen (1992:190) post-Fordism means a movement beyond Fordism. It is a qualitative shift in the manner that production and consumption are organised. Flexible manufacturing systems are useful because they have the ability to switch from mass production to batch production – or economies of scale to economies of scope. Innovative work organisation aimed at improving product quality is introduced and so are new technologies, which may deskill, but will also enskill and reskill. Overall, post-Fordists are optimistic that there will be a multi-skilled labour force working in a less hierarchical organisation. In a post-Fordist environment changes will be made to product life and product innovation due to shorter, flexible runs and more products on offer; changes in stock-keeping, as just-in-time and Quick Response is implemented; and changes in design and marketing in response to greater specialisation. Consumption is also changing as companies now focus on niche markets, segmented markets and changes in consumer behaviour (Murray, 1992; Esser and Hirsch, 1994:77-78).

Jessop (1994:257) goes even further when trying to establish what post-Fordism is: *'a minimum condition for referring to post-Fordism is to establish the nature of the continuity in discontinuity which justifies the claim that it is not just a variant form of Fordism but does actually succeed Fordism.'* This means that if there is not a clear break it is not POST-Fordism, and if there is not enough continuity it is not post-FORDISM. Jessop (1994:257) adds to the features above: the labour process is a flexible one, using flexible systems and a flexible workforce. This flexibility is used to overcome the alienation and the resistance of the worker in the Fordist factory; the stagnation of Taylorism and mass production; threats from lower cost competitors; saturation of mass markets for standardised goods; to increase productivity; and meet the demand for specialised products. Post-Fordism further addresses the limits of Fordism by being demand-driven rather than supply-driven and so is less

constrained by national demand conditions. It uses supply-side innovation such as Quick Response. In a post-Fordist environment competition does not only depend on price anymore, but on improved quality and performance, responsiveness to customers and, the biggest departure from Fordism, rapid response to changing markets (Jessop, 1994:259, Bessant, 1991:267).

Amin (1994:2) describes post-Fordism wider than the previous two authors do: in the industrialised countries many features of the previous phase of capitalist development are now fading in this phase. These include the centrality of large industrial complexes, blue-collar work, full employment, centralised bureaucracies of management, mass markets for cheap standardised goods, the welfare state and mass political parties. Amin (1994:17) adds that in a post-Fordist era innovation will be used to change managerial practices, inter-sectoral and inter-firm relationships. This will be by means of information technology where computer networks will enable inter- and intra-organisational communication and collaboration to take place. New patterns of work will also be established such as teleworking, home-working and flexible hours.

A post-Fordist era can bring a radical shift in the nature of relationships between organisations, according to Bessant (1991:267). The Fordist norm was power-based relationships, where there was hierarchical dependence, but in these 'new times' relationships are built in a network model where mutual development within the partnership is the key. One of the reasons for this is increased competition. With markets opening up, barriers going down and the use of information technology, new competitors have the ability to compete against local firms. One way to cope with increased competition are inter-firm linkages. Another reason is that firms have to be much more responsive to changing markets and produce products of high quality. This can be done when companies include suppliers in the quest for total quality and a quicker response. Thus, there is a bigger reliance on the market to indicate what to produce. This can be achieved through changed relationships between companies (Bessant, 1991:269).

Esser and Hirsch (1994:77) warn against talk of international post-Fordist capitalism or re-established post-Fordism. Post-Fordism has been, as yet, unable to impose itself. What one rather finds is a mixture of alternative strategies that have been used to overcome the crisis. This depends very much on the region or country. Esser and Hirsch (1994:77) believe that the features and changes mentioned above are tendencies towards and starting points for post-Fordism. Bessant (1991:11) also talks about a transition to post-Fordism – one that has not necessarily taken place yet or will do so overnight. If manufacturing enterprises intend to effect this transition, they need to use new technologies of information and communication and change their organisational structures towards new supporting structures. Blyton and Morris (1991:4) label this information technology used in the industries as flexible automation. This includes computer-aided design (CAD), flexible manufacturing systems and other advanced manufacturing technology, such as robots and computer numerically controlled (CNC) machines.

Mathews (1989:2), referring to industrial relations in a post-Fordist era, argues that the drive for competitive survival where management and workers co-operate, is replacing the drive for managerial control found under a Taylorist labour process. The hope is that the antagonism evident in the industrial relations of the past will be replaced by a less authoritarian, more participative, democratic shop floor. Mathews (1989:2) says that trade unions and their members must move from antagonism to protagonism. This can be done if they develop strategies concerning new technology, changes in work organisation, skills formation and industrial relations. Thus, unions can promote certain types of technology or work organisation that will suit their members. However, changes in job design and work organisation are affording some employers the opportunity to undermine unions. This is often done when firms only appoint a small core of workers and sub-contract their work to a periphery.[2] Mathews (1989:4) states that this can be countered if unions and their members create their own agenda for the transformation of work. Unions must assess technology from their own point of view. This will allow them to promote the

2 See Bezuidenhout (1997) for a discussion of this in South Africa.

post-Fordist developments and block computer-aided Taylorisation (Mathews, 1989:5).

In summary, Mathews (1989:108-113) identifies these principles as the most notable in post-Fordist work organisation: minimised division of labour, where tasks are integrated; multi-skilling and the acceptance of greater responsibility by workers; group and teamwork; flattening of the enterprise organisation, resulting in wider involvement during decision-making; shared supervision; and work to meet basic criteria of satisfaction.

This discussion of post-Fordism must not create the idea that it is a clear-cut issue. Within the post-Fordist debate there are many writers who differ greatly and yet, they all call themselves post-Fordists. The above only represents some of the areas that consensus has been reached on. Jessop (1994:276) warns that, in this '*phase of transition, experimentation and strategic intervention*', one must be cautious when describing the form and functions of a post-Fordist organisation or institution. Its final form will only become apparent later and will definitely differ from society to society and firm to firm. Mathews (1989), Amin (1994) and Elam (1994) identify different routes or models that can bring about a post-Fordist institution. The main ones are the neo-Schumpeterian approach and the flexible specialisation approach or neo-Smithian perspective (exemplified by Piore and Sabel in '*The Second Industrial Divide*') (Amin, 1994 and Elam. 1994).

However, the fact that Fordism or the mass production system is in crisis does not automatically mean that the regime of accumulation will change to post-Fordism. Many writers feel that it might in actual fact be neo-Fordism. Wood (1989:20) says that neo-Fordism is also an attempt to move beyond Fordism, but contrary to post-Fordism, it does so without negating its fundamental principles. By restructuring tasks, drastically changing automation and an increased internationalisation of production, neo-Fordism tries to shake off the problems presented by Fordism. Some writers see neo-Fordism only as a transitional form that cannot solve the difficulties experienced by Fordism, some, notably the French regulation school, use

it as a critique of post-Fordism, and others perceived it to be more of an end-state, in capitalism, which might be able to arrest the downward slide in the regime of accumulation. At the job level, neo-Fordism means eradicating the current division of labour, using job enrichment and other ways of increasing productivity. It involves a high level of automation that enhances co-ordination and control (Wood, 1989:20-21).

According to Mathews (1989:31), in a neo-Fordist system there is either an intensification of previous Fordist strategies or a modification of Fordism towards innovation and specialisation. The former is evident when firms intensify their use of mass production principles – expanding outwards to international markets; contracting inwards, behind tariffs and other protectionist measures; or changing production by using information technology, but not deviating from the Taylorist approach. They stick to Taylorism with the hope that it, together with computers, will still increase productivity and reduce wage costs. In this way, Fordism's premise that a mass production system needs to pay high wages to support mass consumption is done away with. The second neo-Fordist approach is to pursue innovation and specialisation within a Taylorist environment. This means that although mass production has been replaced by economies of scope or batch production, Fordist work organisation, industrial relations and skills restriction are still in place (Mathews, 1989:33).

Allen (1992:193) discusses the differences between post- and neo-Fordism: post-Fordists such as Murray (1992) perceives the current changes in manufacturing to be potentially progressive, while neo-Fordists such as Aglietta (1976) is of the opinion that, especially for workers, the move from Fordism is generally regressive. The two camps differ in the way that Fordism is interpreted. Neo-Fordists argue that the changes in production is only an attempt to adjust to the problems of Fordism, hoping that the period of Fordism can be extended, whereas post-Fordists see the changes as a step beyond Fordism with the start of a new era. Methods of production might involve a mix of regimes next to one another, within and between

countries and industries. This is contrary to the view that one method will replace another completely (Allen, 1992:194).

Wood (1989:21) says that the definitions given to neo-Fordism by Aglietta (1976), Lipietz (1987) and others form part of the French regulation school. Regulation school members use neo-Fordism to critique post-Fordism. The regulation school does not see neo-Fordism as an ideal type and are not exponents of it. It does not believe that the current neo-Fordism is a temporary state on the way to post-Fordism.

To understand the regulation school's use of neo-Fordism, it is necessary to return to their concept of Fordism: it involves more than the labour process, can be applied to a specific regime of accumulation and refers to a paradigm of production and a pattern of consumption. Neo-Fordist changes in production were aimed at monopolising conception for management. Coupled with automation, it reduced the need for skilled workers. Aglietta (1976:122) defines neo-Fordism as *'an evolution of capitalist relations of production, still in its embryonic stage, that is designed to meet the crisis in such a way as to safeguard the reproduction of the wage relation – in other words, to perpetuate capitalism'*. In neo-Fordism, as in Fordism, the needs of management dictate how production is organised. It is different in this new environment, as automation or automatic production control is the new complex of productive forces. The neo-Fordist principal of work organisation operates because there is a systematic application of the principle of feedback to the functioning machinery. The fact that the machinery controls its own operations is of great importance. The advances in information technology have made possible the developments in this production system. It allows companies to switch from mass production to production in short or medium runs (batch production) (Aglietta, 1976:125).

In a neo-Fordist organisation, departments with skilled jobs will grow because of the transfer of production decisions to it. However, Aglietta (1976:126) cautions that this centralisation as a result of automation is eliminating many less skilled jobs. The new

jobs created do not compensate for the lost jobs, as they are totally different and thus incommensurable. This is especially relevant to South Africa where many workers are illiterate and so the creation of new skilled jobs would not compensate for the loss. Taking into account the bad training record of South African companies, exacerbates the situation.

Aglietta (1976:127) is of the opinion that this regime of intensive accumulation can survive the crisis of Fordism. This will happen if there is separation of execution and conception and if management can wield effective power over the forces of production, which will result in a long-run pressure on both constant and variable capital.

Aglietta (1976:128) says that the power that management holds causes job rotation and job enrichment to be the ultimate extensions of Taylorism and Fordism. Contrary to assembly lines where work is too fragmented and time is lost, these changes in the labour process secure a more effective fit between jobs. Management's power is also increased when the strict hierarchical structures of command are eradicated. In this system, management isolates conflicts on the shop floor and undermines the functioning of trade unions by instituting their own structures as an alternative to trade unions (Aglietta, 1976:130). In this way, allowance is made for one of the problems of Fordism, worker resistance (Wood, 1989:22).

As can be gathered from the discussion thus far, Hirst and Zeitlin's (1991:17-18) labelling of neo-Fordism as the middle ground between two poles is very apt – not the middle point on a journey between two points. Neo-Fordism attempts to incorporate the openness and contingency of the flexible specialisation approach, as well as the insistence on the systematic nature of capitalism as a mode of production and the centrality of class struggle.

In neo-Fordist debates, there are two key concepts that identify the core mechanisms at work. Amin (1994:8) and Bessant (1991:9) identify them as regime of accumulation and mode of regulation. Boyer (1990:35) describes the former as *'the*

set of regularities that ensure the general and relatively coherent progress of capital accumulation, that is, that allow for the resolution or postponement of the distortions and disequilibria to which the process continually gives rise'.

The mode of regulation is the institutional mechanisms (laws, agreements) and the cultural habits and norms, which secures capitalist reproduction as such. It refers to the *'institutions and conventions which regulate and reproduce a given accumulation regime through application across a wide range of areas...'* (Amin, 1994:8). Boyer (1990:43) uses mode of regulation to *'designate any set of procedures and individual and collective behaviours that serve to:*

- *reproduce fundamental social relations through the combination of historically determined institutional forms;*
- *support and steer the prevailing regime of accumulation;*
- *and ensure the compatibility over time of a set of decentralised decisions, without the economic actors themselves having to internalise the adjustment principles governing the overall system.'*

Boyer (1990:43) believes a mode of regulation describes how all the institutional forms *'fashions, guides, and in certain cases constrains individual behaviour'.*

Bessant (1991:9) suggests that *'there is in any period of capital accumulation a balance between the regime of accumulation (which balances consumption, savings and investment) and the mode of regulation (the social and institutional structures within which this takes place)'.* The neo-Fordists ascribe the crisis in Fordism to changes in both these, which resulted in a mismatch. Changes in the basic conditions of accumulation (saturation of mass markets, new specialised markets and changes in demand) caused a mismatch with the rigid organisational structures and practices found in mass production (Bessant 1991:9). Bezuidenhout (1997:4) says that the capitalist system can only survive if it changes the regime of accumulation (to fit in with the mode of regulation). The regulationist school of thought perceives neo-Fordism as an accumulation regime that tries to address some problems inherent in capitalism and Fordism. However, a neo-Fordism system

has internal contradictions and hence, does not solve the problems of Fordism. So Bezuidenhout (1997:4) argues a new accumulation regime will have to be found in the future.

Arguably the most important contribution by the regulation approach and other neo-Fordist writers has been that the dichotomy between Fordism and flexible specialisation has been shown to be false under certain circumstances. Ewert (1992:3) also points this out when relating how neo-Fordism and the continued use of mass production have undermined the flexibility thesis of the 1980s. Suddenly it became obvious that any change to methods of production is not necessarily a move to post-Fordism.

Returning to the contradictions of neo-Fordism or, as Mathews (1989:33) calls them, the limits of intensification and innovation/specialisation. These are the same limits that Fordism faces. In order to succeed, specialisation and innovation strategies demand a highly skilled and motivated workforce. However, this is contrary to Taylorist principles of work organisation and control. Mathews (1989:34), noting that the response to this was work humanisation programs, argues that the responses will not succeed as the industrial relations system will still operate in a Taylorist environment. Changes in this system will then actually translate into mere superficial relaxation of the rigid Fordist structures. By only consulting workers superficially, management cannot expect loyalty, skilled innovation and motivation. Multinational corporations have kept intact their assembly lines and at the same time sought greater flexibility or introduced work humanisation programs without including the unions or addressing industrial relations issues. The shortsightedness of these 'innovation' strategies have been realised and subsequently discarded (Mathews, 1989:35).

Allen (1992:196-197) criticises the post-Fordist debate: firstly because the extent to which post-Fordist work organisation has infiltrated manufacturing is not always an issue. Some industries (or even companies) might not have the capacity or might choose not to adopt post-Fordist methods. Even if it was empirically found that post-

Fordism is being implemented extensively, the real issue is not how many firms use it, but rather whether these changes can sustain a new kind of economy, as it is suggested post-Fordism is. Secondly, it does not take into account the geographical scope of developments. What might be happening in the 'north' (or industrialised countries) might not be the case in the 'south'. An international division of labour causes post-Fordism to blossom in the 'north', while mass production is shifting to the countries in the periphery. Thus, what is happening in the north is surely impacting upon the lives of people in the 'south' (Allen, 1992:197).

Amin (1994:3) questions the *'theorisation of historical evolution and change'* and says that literature on post-Fordism should be viewed as *'a debate rather than an achievement or universally accepted theory of transition'*. Marxists criticise the practice of periodising capitalist history. They would rather see an approach that acknowledges that change is evolutionary and has an open nature in class societies. The trend of identifying absolute turning points or sharp distinctions between phases falls prey to *'a logic of binary contrasts'* between rigid old times and flexible new times (Amin, 1994:3).

2.1.1 Racial Fordism

While the changes in manufacturing discussed so far had been taking place in the core, industrialised countries, the situation in South Africa was slightly warped. Gelb (1991) and Bethlehem (1991) describe it as racial Fordism. It was a caricature of Fordism where mass production was evident, but only whites occupied skilled and supervisory jobs. Mass consumption was only present among whites as their wages made it possible. Black South Africans were excluded from this consumption pattern due to their low wages. Racism stopped the growth of 'an average' Fordist system in South Africa. Webster (1995:5) labelled the system of labour control *'racial despotism'* as one race group dominated at the expense of others and physical and economic coercion was preferred over consent. Bethlehem (1991:2) suggests that South Africa differed from other forms of Fordism as it was both racially constructed and regulated. Mass production in South Africa included raw materials and

manufactured products such as metal, paper, clothing and chemicals. This regime of accumulation depended on low wages and levels of consumption by blacks. In racial Fordism the state intervened to secure the conditions for accumulation, but in a repressive way. It used influx control (pass laws) to shape the labour markets and eliminated black trade unions. Bethlehem (1991:4) argues that, concerning control, racial Fordism can be regarded as the epitome of Fordism: not just were there fragmented jobs, strict discipline and managerial hierarchy to ensure control, but also racial despotism. The vision by Taylor to transform the worker into an executor of one specific task was also epitomised in racial Fordism, as black unskilled workers did not even have access to primary education (Bethlehem, 1991:4).

Coupled with this was the use of cultural Taylorism that, according to Webster (1995:2), was used to explain problems affecting the productivity of black workers. Absenteeism, sabotage and industrial conflict were all attributed to the alleged psychological and cultural differences between whites and blacks. Kraak (1996:40) says that racial Fordism was a combination of apartheid and import substitution industrialisation. The latter used tariffs and quotes to protect local industries. This meant that there was no real competition for these industries which had negative long-term consequences, especially in the clothing and textile industries, as will be discussed later.

Concerning the current situation in South African manufacturing, Kraak (1996:41) hopes that the African National Congress (ANC) and the Congress of South African Trade Unions (COSATU) envisage structural reform that will result in a post-Fordist system. The South African circumstances demand special attention such as industrial restructuring; a new trade and investment policy to ensure exports; an improvement in education and training that will allow workers to participate in the new style work organisation; and increased co-determination. Neo-Fordism is also prevalent in local firms. Kraak (1996:42) suggests that it has basically the same qualities as elsewhere, but included is a partial dilution of the racial division of labour, which does not disturb the status quo regarding power relations on the shop floor.

Kraak (1996:43) regards the optimism for a move from racial Fordism to post-Fordism as premature. It is based on two premises, which may have resulted from a misreading of the true situation: that Fordist work organisation became widely embedded in South African industries and the extent to which post-Fordism have been incorporated into organisations. There is no evidence that shows the extent of Fordist (and for that matter, racial Fordist) or post-Fordist work organisations in local industries. When the spread of one or both of these are assumed, then one does not take into account the uneven development of the South African capitalist labour process (Kraak, 1996:42). Webster (1995:8) uses research to suggest that there is a gradual and uncoordinated drift in industry towards the use of new technology and new methods of production, rather than a rapid and co-ordinated departure from the past. Kraak (1996:44-45) agrees with this assessment, adding that in the 1980s the local labour process was a hybrid of racial Fordism, jobbing and familiar production. The transformation in production means that there is currently a hybrid of neo-Fordism, post-Fordism and untransformed past processes.

Ewert (1992:18), in his study of Western Cape firms, concludes that new information technology, automation, changing work organisation, improved quality and reduced lead times and work-in-progress are evident in some firms, but these are usually inserted labour processes with strong Fordist features. Based on this, the current restructuring can best be described as a shift in neo-Fordism, rather than a total departure to post-Fordism. Ewert (1992:18) found that managers saw local conditions as too different to even try and emulate successful companies in industrialised countries. A feature such as just-in-time, although not impossible, would be hard to realise in South Africa, because of the dependence on overseas suppliers, the lack of local infrastructure, inadequate machinery and the nature of local industry.[3] When work organisation is changing or automation incorporated locally, the aim is not to achieve flexibility, but rather to increase productivity or *'for their skill-saving character'* (Ewert 1992:6).

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3 See Duncan and Payne (1993) for an example of just-in-time production in South Africa.

Other factors that might hinder the development of local post-Fordism is the largely illiterate workforce with relatively little skills, the high cost of imported technology, the non-existence of research and development into local technology and the power of corporate capital over technology and industry (Ewert 1992:4). Kraak (1996:53) adds to this the racially segmented labour markets, inappropriate macro-economic frameworks (such as import substitution), the triumph of market ideology, obstinate managerialism, capital's poor training record and its short-term perspective and a lack of co-operation between state, capital and labour.

Von Holdt (1991) and Kraak (1996) warn against differentiated industrial restructuring. The result could be that post-Fordist methods (and, more importantly for workers, principles) are established only in certain strategic industries in South Africa. Hence, the other industries will be characterised by a hybrid of systems. The result will be the establishment of a few Cinderella industries that are supported by state industrial policies and consist of competitive, productive firms and a few workers who reap the benefits. Von Holdt (1991:24) sees this as one of the great dangers of post-Fordism: certain skilled workers might benefit from changes in work organisation and restructuring, while the semi- and unskilled workers who cannot use technology or assist in improving productivity will be left behind. The result could be the birth of *'an organised labour aristocracy',* which, by co-operating with business, revitalises capitalism in its current state rather than reform it. Other dangers for workers include job loss as new technology is employed, deskilling when jobs are fragmented and increased divisions within working class (von Holdt, 1991:23-24).

2.2 Flexibility

It has been mentioned that firms strive to become flexible. But what does this mean? Atkinson (1985:16-17) identifies three types of flexibility: functional, numerical and financial. The first two are operational necessities, while the latter is a means of implementing the first two. Functional flexibility occurs when workers can be moved, quickly and efficiently, between activities and tasks. This implies that workers are

multi-skilled in order to move between mechanical, electrical and pneumatic jobs. It might also mean that workers are able to move between departments where there is a complete change in the job description. Hence, changes in work organisation and production methods will imply that the same workers change with them.

Numerical flexibility has to do with the numbers of a workforce. If there is a change in the demand of labour, this flexibility allows for a quick increase or decrease in the number of workers to suit the change in demand. This implies a move away from the regular 'basic hours' type of work. It can either result in hire-and-fire policies being easily implemented, a looser contractual agreement between worker and employer, or a reorganisation of work hours to be more responsive. Financial flexibility has two benefits for the employer: labour costs will reflect the supply and demand of the external labour market and a remuneration system that facilitates either of the other two types of flexibility. These include assessment-based pay systems instead of rate-for-the-job systems (Atkinson, 1985:16-17). This thesis will only focus on functional flexibility.[4]

NEDO (in Wood, 1989:1) defines functional flexibility: it is about what workers do and how firms can change and use the skills of the workers to match changes in work organisation, technology or workload. It either consists of a vertical integration of tasks (doing tasks of workers at higher levels) or a horizontal integration (tasks of workers at similar level). This and other types of flexibility mean a total change from the traditional homogeneous employment patterns, standardised contracts, single payment system and deployment of labour practices. The reasons for this leap towards total flexibility are technical change, market uncertainty and a search for lower labour costs (Blyton and Morris, 1991:7).

Bessant (1991:77) says that the markets have moved beyond accepting products in *'any colour you like as long as it is black'*. Innovation, customisation and variety are now demanded. The way to cope with this fluctuation in demand is through flexibility.

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4 For a discussion on numerical flexibility in South Africa see Bezuidenhout (1996).

It allows firms to produce smaller batch sizes of products linked to what the market demands.

Bessant (1991:81) goes on to identify four dimensions of flexibility: product, mix, volume and delivery flexibility. The former refers to the ability to introduce new or modify existing products. Mix flexibility is the ability to change the mix of products, while volume flexibility is the ability to change the level of aggregate output and delivery flexibility is the ability to change agreed delivery dates. Each of these has two components: range and response flexibility. Range flexibility is the scope within which the company can move on either of the above-mentioned types of flexibility. Response flexibility refers to the time that a company needs to change in a certain type of flexibility (Bessant, 1991:82).

The problem with Atkinson's model of flexibility (especially functional flexibility) is that it focuses only on workers' position as a response to changes in production methods. Bessant's model, on the other hand, examines the changes in work organisation as a company attempts to be flexible – what needs to change and how much. A combination of the two should suffice when studying an organisation or firm changing from a mass production system. This would allow one to analyse the changes in the production methods and in the workforce. It fills the gap that Atkinson's model leaves by not providing a way to assess the changes in production methods.

Lloyd (1994:35) agrees that some forms of flexibility might be attractive to workers. These include the altering of days or hours of work, shift arrangements or days off. Especially women workers may benefit from this type of flexibility, as they have traditionally been responsible for childcare. Yet, Lloyd (1994:37), referring to the South African situation, warns against flexibility. The core workers with career paths, multiple skills, good pay and secure employment conditions provide functional flexibility. The workers on the periphery earn low wages and have little employment security (through casualisation and sub-contracting). They provide numerical flexibility. However, these two forms of flexibility are contradictory, as the availability

of workers due to numerical flexibility will undermine training and the use of skilled workers under functional flexibility (Lloyd, 1994:37). The other danger is that the functionally flexible workforce and the numerically flexible workforce will be split largely along racial lines in South Africa. In the past skills, education, and secure, well-paid employment were the domain of white workers. Flexibility might exacerbate the situation, unless education systems and training are improved to help illiterate workers.

Blyton and Morris (1991:8) criticise certain conceptional issues of the flexibility thesis: firstly, some of the central ideas are not new, such as the division between core and periphery, the use of non-traditional working practices (such as shift and overtime) to achieve flexibility, productivity agreements and the use of temporary workers. (Hakim (in Blyton and Morris, 1991:8) agrees that the search for flexibility might not be new, but the pace of it has increased dramatically.) A second issue is the defining of core and periphery workers. There is a dispute concerning the extent to which sub-contracted and part-time workers are peripheral.[5]

2.3 Flexible specialisation

The regulation approach and the flexible specialisation approach are two theoretical positions prevalent in the post-Fordist debate. These theories provide a framework within which writers can substantiate and explain the claim that there is a crisis in mass production or Fordism and that it is being replaced by new methods of production (Amin, 1994:6). This section will discuss flexible specialisation and how it views the move away from post-Fordism. The concept flexible specialisation gained prominence after the publication of Piore and Sabel's *'The Second Industrial Divide'* (1984) and is also associated with the work of Hirst and Zeitlin (1991).

In order to understand what flexible specialisation is about, Hirst and Zeitlin's influential article *'Flexible specialisation versus post-Fordism'* will be used. They

5 See Blyton and Morris (1991) for contributions that provide evidence for these issues.

(1991) argue that when analysing productive systems flexible specialisation identifies the connections between technology, institutions and politics. Concerning industrial change, flexible specialisation shows awareness for contingency and a scope for strategic choice within this change. The mainstay of flexible specialisation theory is the distinction between two ideal type models: mass production and flexible specialisation or craft production. Contrary to the former, craft production (or flexible specialisation) is the *'manufacture of a wide and changing array of customised products using, flexible general-purpose machinery and skilled, adaptable workers'* (Hirst and Zeitlin, 1991:2). This is in contradiction to mass production. Yet, the flexible specialisation approach does not view one as the superior model over the other. Both can create economic growth and productivity improvement. This takes place under flexible specialisation when multi-skilled labour and adaptable equipment performing economics of scope reduce the cost of customisation of products for fragmented markets. This results in the growth of these markets and allowing for increased investment in flexible equipment, which once again reduces the cost of customised products – so the circle continues. The flexible specialisation approach claims that this can only become a reality if at micro level (firm and region) and macro level (national and international) there are regulations and institutions to facilitate it. Hence, these models and developments can only be appraised within their environmental framework (Hirst and Zeitlin, 1991:3).

Piore and Sabel (1984:5) introduces their thesis on flexible specialisation by first explaining the concept industrial divide: it is the *'movement when the path of technological development is at issue. At such moments, social conflicts of the most apparently unrelated kinds determine the direction of technological development for the following decades.'* In the 19th century the first industrial divide occurred when mass production technologies started replacing less rigid craft systems. The latter saw skilled workers using flexible machines to produce a variety of products for changing markets. In industrialised countries, the second industrial divide is currently taking place. There are two options for growth in this divide: a return to craft-style methods of production or extending the principles of mass production. Whichever

option is chosen will result in different consequences for business and labour in that country (Piore and Sabel, 1984:6).

Piore and Sabel (1984:17) refer to the first option as flexible specialisation. It is a strategy of permanent innovation, where constant change is regarded as a given and companies aim to accommodate it. Flexible specialisation is a return to craft work principles where skilled workers use flexible machines. What is often not mentioned is that it allows for the creation, through politics, of an industrial community that *'restricts the forms of competition to those favouring innovation'* (Piore and Sabel, 1984:17). The way that flexible firms can be successful is to attract customers to specialised products and use marketing to create the demand for it. Success allows firms to invest in more updated flexible technologies to increase their productivity and efficiency. Thus, the difference in productivity between mass producers and flexible firms decreased, resulting in cheaper specialised products. This helps attract customers away from mass-produced goods (Piore and Sabel, 1984:191). Craft production is challenging mass production, as the paradigm because customised production has become cheaper. This can be attributed to technology and the constant improvement of existing technology as companies strive towards greater flexibility (Piore and Sabel, 1984:207).

Companies calling for import restrictions, attributing their losses to the practices of foreign competitors (such as dumping), to the economic policies of the government, and to the wage demands of their workers – sounds like a typical South African scenario. However, it is one of the responses, as described by Piore and Sabel (1984:240), to the crisis in mass production in the United States. When the trend towards flexible specialisation started, uncertainty existed about how to reconstruct industrial relations systems. Some organisations felt that work reform and unions could not be combined, hence, their moves to keep unions away from their shop floors.[6]

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6 For a discussion on a solution by the United Automobile Workers, see Piore and Sabel, 1984:243.

Piore and Sabel (1984:252) argue that the crisis in mass production can have two outcomes: firstly, a geographic extension of mass production or, alternatively, the creation of regulatory institutions and the use of technology can ensure that flexible specialisation becomes the dominant method of production. Piore and Sabel (1984:258) agree that the second outcome begs certain questions, such as '*whether a system of flexible specialisation could prove technologically dynamic enough to continually improve manufacturing efficiency?'* They believe it can because of the use of computers and other technologies to increase efficiency at all levels. The latter takes place when there are appropriate conditions of competition. The use of computers is especially effective in batch production with short runs, where costs are lowered. This is because of the adaptability of the equipment to the task that it has to perform (Piore and Sabel, 194:260).

Flexible specialisation can take on various forms: regional conglomerations, federated enterprises, 'solar' firms and workshop factories. For the purpose of this thesis, only the first will be examined. Piore and Sabel (1984:265) describe it as a specialised industrial district consisting of a few small firms who compete and co-operate. There are no formal links between them, except for short-term contracts. Together the actors in this arrangement create institutions, which secure them benefits such as customers, financial assistance and raw materials. There is usually a sense of community that keeps the industrial district together (Piore and Sabel, 1984:266; Sabel, 1994:131). This way firms make use of their local proximity. It assists them against competitors from outside their region. There is, however, another regime of flexible specialisation that might arise: the restricted regime, where isolated firms seek their fortune without any regard for their rivals – be it citizens of the same district or country (Piore and Sabel, 1984:278).

I have already discussed how the use of technology, computers and automation is paving the way for flexible specialisation to become the dominant mode of production. Amin (1994:15) identifies another feature: changes in the market. Demand for mass produced goods has stagnated and, related to this, demand in specialised, better quality, short shelf-life goods is threatening mass consumerism –

one of the building blocks of Fordism. Flexible specialisation is regarded as the industrial model most capable of supplying the demand for differentiated models, with the minimum of effort, time and cost. It would do so by relying on flexibility, skills and producing goods in changing volumes and combinations without decreasing productivity.

Amin (1994:4) discusses organisational arrangements which can bring about the success of flexible specialisation: the division of tasks between specialist departments allowing for products to be varied without losing efficiency; reintegration of research, design, management and workers in order to increase responsiveness to changing markets; a greater reliance on workers' skills and participation to increase product quality; the reduction of worker alienation by devolving decision-making; the deployment of multi-purpose technologies; and the creation of a culture of trust and co-operation within firms, but also between firms trading with each other.

Regarding industrial relations, flexible specialisation aims to restore dignity and skills to the shop floor, and introduce more co-operation, dialogue, increased trust and mutual respect (Amin, 1994:21). Sabel (1994:116) argues that many multinationals are now also changing strategies using some or all of these arrangements. This will enable their production methods to be organised along flexible specialisation specifications, giving them a chance to achieve the benefits of flexible specialisation. The reasons for the moves by these international players are previous failures, the challenges posed to multinationals by the success of industrial districts, and by their competitors adopting flexible specialisation. American corporations are moving towards flexible specialisation slower than German or Japanese ones as they enjoyed the longest success with mass production methods (Sabel, 1994:116).

Sabel (1994:139), in an article written some time after his book with Piore, defines flexible specialisation from a different perspective: it is a *'system in which firms know that they do not know precisely what they will have to produce, and further that they must count on the collaboration of workers and subcontractors in meeting the*

market's eventual demand'.[7] To clearly understand the implications of flexible specialisation it is necessary to grasp the relation between flexibility and specialisation. The former depends on the latter. There are risks: flexibility has its limits as no machine can make any or all goods; and specialisation entails market risk, as security in an industry cannot be guaranteed. But flexible security mitigates the risks as specialisation can lead to diversification, which reduces the reliance on a single type of market. It also reduces risks, as there are overlaps in the machinery and materials used to serve one or another market. Firms can thus shift their area of specialisation between two markets (Sabel, 1994:140).

Wood (1989:9) observes that the flexible specialisation debate's scenario of reskilling stands opposite to Braverman's deskilling model. Supporters of the latter's thesis argue that the control of labour is a fundamental part of capitalist management and will always be. Contrary to Piore and Sabel (1984) and Hirst and Zeitlin (1991), they say that any change or restructuring by management will always involve increased control for them and labour intensification. Whereas flexible specialisation theorists regard technology as a type of liberator, the writers in the deskilling debate only see it as a means to increase managerial control. Management initiatives like quality circles, often found in flexible organisations, are deemed to be a mechanism to decrease the remaining areas of worker control. Wood (1989:10) warns that labour process writers might be over-reacting to managerial initiatives. Their warnings have merit, but it would be reductionist to regard flexible specialisation as another control mechanism.

Wood (1989:12) says that flexible specialisation writers are not naive in thinking that changes to job design, worker participation and work organisation are based on concern for workers. Rather, these changes are because of a need to become a flexibly specialised firm and be better prepared to act on market and technological changes. However, these changes also bring about some liberation for workers, although not quite intended by management. The workers are not seen as

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7 This is almost a definition of Quick Response to which I will return in chapter 3.

expendable anymore. It is realised that Fordist work organisations were restrictive on workers and so limited productivity growth. New technology also demands a higher skilled and more integrated workforce (Wood, 1989:12). Talking about a highly skilled workforce and a changed management focused on ever-changing market forces in South Africa involves talking about a Utopia. Can flexible specialisation be achieved in a firm in a country that is not industrialised? Flexible specialisation theorists say that political and societal conditions in some countries will make it easier for those firms to adopt flexible specialisation. The outcomes may also differ widely between societies: in some cases, a polarisation of incomes and skills might be the result.

Wood (1989:14) however argues that this polarisation might not take place as *'there is a new basis for a mutuality of interest between management and workers rooted in the upgrading assumed to follow from the functional flexibility inherent to the new paradigm'*. Walker (1989:59), answering labour process theorists argument about the degradation of work and the introduction of automation, says that human labour dictates the terms of production and thus mechanisation also; that the physical characteristics of machinery affect the course of mechanisation; and that workers are reskilled as well as deskilled over time. The conclusion is that even if it was the capitalists' intentions, workers cannot be totally replaced in production (Walker, 1989:60).

Rainnie (1991:47) emphasises the unevenness of the development of flexible specialisation and automation. Many organisations are adopting new measures to increase flexibility in control and production, but it might be combined with the deskilled assembly line of Fordism. An example is McDonald's, the fast foods chain where just-in-time systems, which epitomise flexible specialisation, and information technology are combined with mass production. However, the McDonald's workers do not have the Fordist image of the skilled, well-paid male, but rather the new flexibility of young, black, female, part-time, non-unionised and low paid (Rainnie 1991:47). The unevenness of flexible specialisation can be either by choice or forced upon a firm. It would be a mistake to regard work organisation as a pure dichotomy

between mass production or Fordism and flexible specialisation. Rainnie (1991:54) says that by ignoring combined or uneven development, it is mistakenly assumed that there is *'only one best way of managing the contradictions between the forces and relations of production on the one hand and those between the extraction and realisation of surplus value on the other'.*

Flexible specialisation provides firms with alternative manufacturing policies. The policies are differentiated either by being low or high volume and either standardised price-competitive or customised quality-competitive. When products are standardised they can be produced in economies of scale, making them cheaper and allowing producers to compete on price, while customised products are usually more expensive, but of better quality and thus companies compete on quality or on differentiated products. Simplifying, one could say that before information technology and flexible specialisation, a firm either produced low volume, customised quality-competitive products or high volume, standardised price-competitive products. The former would be produced by batch production, while the latter would be mass production. But since this new industrial divide of flexibility and new technology, the break-even point of mass production has been lowered. This means that standardised, price competitive products can be produced in lower volumes if this is dictated by the market – causing considerable flexibility, which the producers might not have had before. More importantly, technology has also allowed customised, quality-competitive products to be produced in high volumes. Hence, we find quality and variety in large batch production (Sorge and Streeck, 1988:29-30).[8]

Rainnie (1991:53) identifies a characteristic of flexible specialisation that is sometimes overlooked: the reduction of costs and rigidities that results from the fragmentation of the technical division of labour between different departments within a company and between companies. This is especially relevant to stock maintenance and inventory management. Walker (1989:65) observes that the Fordists never paid much attention to these aspects and for that reason Fordism is

8 See Sorge and Streeck (1988) for a more detailed discussion with an illustration.

associated with poor inventory management. This was very costly as finished goods piled up in warehouses. Buffer stocks are expensive to carry – 30 percent of production costs in industry go to warehousing, inventory, carrying and monitoring stocks. This however has changed with the advent of Japanese methods of inventory control such as just-in-time. This is contradictory to producing stocks just-in-case (or even just-too-late), as was often the case with mass production. Walker (1989:65) agrees that it provides some flexibility regarding final demand, but it also limits production systems because there are no buffer stocks. (The absence of buffer stocks means that there has to be reliability in the production process, hence no stoppages because of industrial action.)

Negrelli (1988:90) describes the process as follows: *'the Fordist discontinuity between production and sale is replaced by a direct link that attempts to satisfy immediately the demand for personalised or new products.'* An organisation can be divided into two parts: the flow of products and the flow of information. Information technology has automated the latter. This in turn facilitates the maintenance of a heterogeneous and flexible flow of products. Just as the steam engine centralised the source of power and the assembly line centralised production flow, the automated information system controls production via its programs (Negrelli, 1988:90).

Bessant (1991:78) observes that flexible specialisation is also used to improve the routing and scheduling within factories. To cope with constantly changing demand or frequent introduction of new products, firms can either build new factories or use existing ones more effectively. Often in factories products lie dormant, without value being added to them. This takes place at bottlenecks, in queues, when waiting for inspection, in transit between operations and in warehouses before and after production. If companies can optimise the time a product spends in the factory and improve the way products flow, efficiency will be increased and a higher variety of work could be processed. Shorter product life cycles, smaller production volumes and higher variety have forced firms to use the same factory (or even machinery) to produce different goods (Bessant, 1991:80).

Flexible manufacturing systems have many benefits: lead time and throughput time can be reduced; inventory saving (especially of work-in-progress); increased utilisation; reduced set-up times; reduced number of machines or operations; and increased quality (Bessant, 1991:107-108).[9]

These benefits are mostly internal. However, as was mentioned previously, flexible specialisation also benefits inter-firm linkages. Buyers and suppliers can become more competitive if there is mutual confidence with benefits for all involved, co-operation, a problem-solving attitude over borderlines and an integral cost approach. An effective supply chain management strategy requires market reach to customers where the supply chain evolves from being product oriented to customer oriented. It also requires integration back to suppliers, more efficient logistics and effective organisation policies (Houlihan in Bessant, 1991:283). Often these benefits are not realised or flexible specialisation is not even adopted. This can be because management has a blind acceptance of past practices and perceives the unknown to be risky or unattainable. It might also be because of abuse in the pipeline where there is aggressive cost-cutting and price squeezing which damage relationships or parochialism where company issues come before sharing or co-operation (Bessant, 1991:285).

Hirst and Zeitlin (1991:7) argue that flexible specialisation strategies are incompatible with a neo-liberal regime of cutthroat competition and unregulated markets. To be successful, flexible specialisation requires trust and co-operation between workers and management and supplier and buyer. This is how the industrial district in Italy operates. It also has regulatory requirements: rules that limit certain forms of competition and institutions that can supply trained labour and technological information. This 'harmonious' system of production does contain a healthy dose of conflict and for that reason independent institutions, which can resolve these disputes, should also be created (Hirst and Zeitlin, 1991:7). Phillimore (1989:82)

9 See Bessant (1991) for a more detailed discussion on each.

observes that flexible specialisation might fall short of its promise if there is not growing market demand. Growing demand will ease the transition in work organisation to flexible specialisation and eliminate '*competition between flexible specialisation firms being based on cutting costs (and therefore wages), rather than on innovation*' (Phillimore, 1991:82).

Wood (1988:107), discussing the merits of worker participation in flexible specialised plants, remarks that it can make supervision more relaxed and involve workers in cutting firms' costs and improving quality. This can lead to the development of new working arrangements where rules are changed and concepts such as teamwork and job rotation are introduced. Even if there is some continuation of the assembly line principle, worker participation can soften some of the features that are not worker-friendly. Worker participation also has a symbolic and attitudinal dimension to it. Workers become aware of plant performance, especially if they have input in decisions concerning it (Wood, 1988:108). Mathews (1989:36) observes that computerised equipment will benefit workers, as a return will be made to specialised craft production where there is flexibility in choice when a worker gets a new job. The worker can then respond with their own choice of tools and techniques. But for flexible specialisation to work for workers, unions have to be pro-active and well informed. Ewert (1991:22) uses the example of the metal workers' union in Germany and their agreement with Volkswagen: it concerns a new standard of protection against rationalisation – a possible effect of flexible specialisation. The agreement states that no worker may be dismissed due to changes in work organisation or technology and that works committees must have access to early and detailed information on changes. It is necessary for unions to create awareness among members about rationalisation and other issues affecting them.[10]

Hotz-Hart (1988:72) is less optimistic about workers' fate: Industrial relations in the United States and United Kingdom are more likely to go the neo-Fordist route than that of flexible specialisation. One management strategy is to bypass the constraints

10 See Ewert (1991) for a discussion on unions and rationalisation in Germany.

of traditional industrial relations and pursue its own strategies, with or without unions. This might involve using new types of worker representation. The challenge is for unions to develop their own strategies to either counter or complement management's. As the employment relationship is being changed quite drastically, traditional unions might not exist for long (Hotz-Hart, 1988:72).

As this thesis focuses on the textile and clothing industries of South Africa, the conclusions of Caroline Lloyd, who studied the influences of flexible specialisation in United Kingdom clothing companies, will be discussed. Lloyd (1989:102) regards clothing as a good example where price-competition has taken a back seat to other types of competition – be it quality or variety. Garments based on shorter runs with higher fashion content are now more sought after. The clothing industry has increased variety and decreased lead time and cost using new information technology in inventory management and at points-of-sale. This innovation could increase the variety of shorter runs and eliminate the need for extensive sub-contracting. The changes brought about by technology have hardly touched machining, which accounts for 80 percent of labour costs. One would expect this labour-intensive part to be changed through automation – thus increasing accuracy and the quality of the process.

Lloyd (1989:104) attributes this lack of technological advancement in that area to the pool of cheap female labour that minimises the cost of sewing. The areas that have been affected are lead times (that have been reduced) and the utilisation of fabrics (which have been increased). But for clothing workers this has not necessarily been good news. The technology has replaced skilled cutters and the jobs of those marking-out. A computer operator now takes care of these jobs. Flexible specialisation provides for shorter runs but the corresponding fluctuations in orders can result in sub-contracting increasing. This is because the company does not need to employ a large amount of direct labour. Sub-contracting is a major means of cutting costs for companies. It will also cause increased supervision in finishing and pre-production. Flexible specialisation can result in factories fragmenting, but control will still be concentrated. Lloyd (1989:104) believes this makes worker organisation

more difficult. Firms that move up-market tend to increase the differentials between wages and between conditions. Although firms become more flexible, workers' jobs do not necessarily become more secure or decent. This is because of the trend towards casualisation (Lloyd, 1989:104-105).

More generally, Thompson (1989:224) criticises the dichotomy between mass production and flexible specialisation for being based on '*shaky foundations*'. Flexible specialisation theorists repeat the myth of the dominance of the assembly line. Mass production is further labelled as inflexible, when in truth it can cater for considerable diversification and multi-model lines. Small firms are often viewed as being the leaders in customised production, yet information technology and new machinery are often too expensive for them to procure. In any case, there is not necessarily a link between advanced manufacturing technology and flexibility. Many firms, especially in Japan, have achieved flexibility without leading-edge technology.

Thompson (1989:225) also questions the statement that mass markets are saturated. Most consumer goods, including television and videos, continue to sell to mass markets. Another disputed part is that of a return to craft labour. Many workers are being multi-skilled, but it still is not a renewal of craft production. A lot of their work is still based on Taylorist criteria. Thompson (1989:227) furthermore agrees with the perception that there will now be a group of multi-skilled core workers. But the cost of it (often ignored by Piore and Sabel) is effort intensification brought about by extra work and responsibilities. New management techniques such as just-in-time operate on continual pressure. Slaughter (in Thompson, 1989:227) calls it *'management by stress'* while Lloyd (1994:7) calls it *'management by fear or blame'*. Another criticism against flexible specialisation is that it perpetuates the situation that women workers find themselves in. The core with secure, well-paid jobs is mostly male, while the periphery with low wages is mostly female.

Even though there have been countless critiques of flexible specialisation, there is still a huge amount of enthusiasm for it. So much so that Curry (1993:99) argues that the concept has devolved into fetishism. (This is the process in production whereby

the workings of the market appear as natural and inevitable rather than something that can be transformed (Thompson, 1989:xiv.) Proponents of flexible specialisation argue that organisations and firms everywhere are moving – or should be – from mass production to flexible specialisation. When criticising flexible specialisation, Curry (1993:100) states that there has to be a distinction between 'is' and 'must'. There would be no problem with flexible specialisation theory if it observed that some industries and some firms are moving towards flexibility. But, supporters claim it is necessary to move from mass production to flexible specialisation because of economic and market reasons – 'must'. This is fetishism: where no other system is regarded as effective or 'natural' and for that reason flexible specialisation should be adopted.

Phillimore (1989:82) continues the critique of flexible specialisation by saying that small, innovative firms such as those of the 'Third Italy' (extensively used by Piore and Sabel as examples) will not necessarily be the dominant characteristic of flexible specialisation. Of more importance will be the dependent sub-contractors or sweatshop labour with little job security and low wages. The 'Third Italy' gave hope of the rise of industrial districts. But Amin (in Rainnie, 1991:56) regards the rise of industrial districts in other areas as a utopian myth. Piore and Sabel and other proponents of the industrial districts did not take into account the multinationals re-establishing their dominance. Hence, small, innovative firms will find it difficult to impregnate markets. Flexible specialisation writers also ignored the differences in characteristics and origin of the various industrial districts. The supposed harmonious relationships that will exist in industrial districts do not take into account the power differentials between suppliers and retailers (October, 1996) or between the employers and the unskilled, unemployed workers. The retailers usually dominate their suppliers; hence the workers in the suppliers are especially vulnerable. These industrial districts usually do not differ too much from other institutions, as inequalities are still evident. A lot of the firms in these districts are on the periphery. Thus, they are more likely to exploit the vulnerable workers through poor pay, no job security and no formal protection of basic rights (Rainnie, 1991:56). This criticism and the other that Fordism still persists, causes Glimell (1991:84) to

observe that instead of flexible specialisation '*sweeping the floor*' with Taylorism, maybe some quality production will be combined with current modes of production, resulting in a modified neo-Fordism. The other possible outcome is that flexible specialisation will mainly be evident in core areas, whereas intensified Fordism (or neo-Fordism as described earlier) will be consigned to the periphery (Glimell, 1991:84). Amin (1994:16) says that Piore and Sabel was naive in thinking that there would be a major return to craft-scale production. Fordism is too embedded and it will probably adapt to new circumstances rather than disappear. The multinationals, which are the main protagonists of Fordism, have a strong grip over finance, market outlets, distribution networks and advertising and will thus continue to dominate.

Chris Lloyd (1994:21) is sceptical about new methods of production working in South Africa. Certain issues will halt the implementation and success of flexible specialisation measures, yet South African business is trying to adopt such measures. There is a perception among managers that if something works in Japan or the United States it should work here. But South Africa's apartheid history has created unique structures, institutions and attitudes that are not the same as that of other countries. The issues are education, wage inequality, local trade unions, management culture, the technology tap and local markets. I will discuss education, wage inequality and management culture.

Lloyd (1994:22) perceives education to be a problem, as the implementation and use of flexible specialisation systems require a high level of education among the workforce. Different systems require different skills, but workers should at least be literate. Yet, in South Africa a great deal of production workers are functionally illiterate. This is a direct result of the apartheid education. Wage inequality is the second constraining issue. Flexible specialisation systems thrive on harmonious relationships between workers and management. Substantial and superficial tactics contribute to a perception that wage and condition differentials are fair and reasonable. Yet, in South Africa a huge gap exists between management and workers' earnings. This inequality is a stumbling block on the road to shared values and commitments.

Lloyd (1994:24) also labels management culture as an issue. Local management has been protected from competition through tariffs and quotas, has been unexposed to leading-edge strategies and has had access to cheap production labour. Hence, there were no challenges as confronted by managers in the world. In Europe and Asia work had to be reorganised and investment in skills and technology had to take place to cope with rising labour costs. The growth of independent unions and the re-entry into world trade have forced companies to act. These actions include importing techniques used elsewhere to make companies more competitive or keep them alive. The conglomerate nature of private capital in South Africa is contributing to the problems facing management. Investment and production decisions are made in a corporate office with little regard for the long-term health of a specific plant (Lloyd, 1994:24).

I would like to conclude this discussion by emphasising Hirst and Zeitlin's (1991:6) statement that flexible specialisation is *'at once a general theoretical approach to the analysis of industrial change, and a specific model of productive organisation whose micro and macro-regulatory requirements may be satisfied through a variety of institutional forms'.* Flexible specialisation is an ideal-typical model instead of a generalisation or description about a specific firm or economy. Neither flexible specialisation nor mass production is wholly predominant.

2.4 Globalisation and competitiveness

In the preceding sections it was mentioned how markets are opening up to new international players and how South Africa faces competition from around the world. It has also been argued that in order to cope with these open markets, countries and firms need to become competitive. In the following section I will discuss what is understood with globalisation and competitiveness.

Moody (1997:6) describes globalisation as a long-term process in which transnational corporations and financial markets operate worldwide. Globalisation

allows for a relative increase in capital's mobility while international and domestic investment decisions are made taking into account global markets. Moody (1997:42) depicts the process of globalisation: *'As trade and investment barriers fell, government ownership and planning shrank, and private corporations became the major organisers of the world's economic activity. Competition and its effects (such as workforce reduction) became more volatile.'*

Unlike many who believe massive, influential corporations are behind the move to globalisation, Moody (1997:7) argues that much of the new market-driven world order is politically negotiated. He uses the examples of the World Trade Organisation, the North American Free Trade Agreement and the Maastricht treaty in Europe, which were all negotiated by governments.

Moody (1997:6) emphasises the negative results of globalisation which *'increases some aspects of fragmentation and inequality between nations. Globalisation's effects are very different in different parts of the world.'* He (1997:7) refutes some of the prominent ideas of globalisation such as the idea that businesses relocate offshore in *'the blink of an eye'*.

'Despite the promises and predictions of neoclassical economists and neo-liberal politicians that deeper world economic integration and regulation by market forces would bring prosperity as the world's resources were more efficiently allocated, the employment crisis grew as the process of globalisation proceeded. Beginning in the 1980s and persisting into the 1990s, the world experienced a crisis in employment,' says Moody (1997:41).

Trying to make the term globalisation more accessible, Wackernagel (1997:35) describes it to mean that the world is *'one great big, happy market,'* that everyone is part of – apart from a few isolationists. Globalisation is a new concept for the free flow of capital, labour and produce between countries. There was a period of laissez-faire until World War I when protectionism replaced it. During the Great Depression the situation intensified: tariffs, quotas and capital controls were used to build even

greater walls around markets. After World War II things changed as GATT was set up. The larger countries wanted to remove trade barriers to boost growth. Wackernagel (1997:35) attributes this situation to technology. Cheaper communication and more efficient technology have made it easier to be a player in world markets.

How was GATT going to lower barriers? Maree (1995:13) identifies three principles that underline the charter that member nations have to sign: most favoured nation treatment: if a country lowers its tariffs on imports for one GATT member, it has to apply to all other GATT members; reciprocity of concessions: GATT members must show a willingness to cut tariffs in return for receiving equivalent concessions, especially at a round of tariff negotiations; protection in the form of tariffs: GATT outlaws quotas, but do allow tariffs, as long as there is a quest to lower their levels. It also has rules when using tariffs to protect domestic industries that might be in a crisis. This shows that GATT is not a charter for free trade, but rather freer trade (Maree, 1995:14). At the conclusion of the Uruguay Round in 1993, members agreed to move towards an ideal situation of full trade liberalisation using lowering tariffs and the removal of quotas. Since the inception of GATT world trade has grown quickly, with manufacturing being the most dynamic sector (Grimwade, in Maree, 1995:14).

Elliot (1997:37) says that globalisation has prospered because it has delivered the goods. People in the West have higher living standards than a couple of generations ago and have many luxuries that have been bought by their increased wealth. Based on technological advance and a relentless dynamism, it has to be said that Western capitalism has something going for it. However, Handy (1998:16) says that *'in the Western World...all is not what we say it is. We have become prisoners...of the money myth'.* Globalisation offers a false prospectus. The perception that globalisation continues and prospers because it can deliver the goods, is flawed. Research has shown that even though per capital consumption has increased by 45 percent in the United States in the past twenty years, the quality of life is down by 51percent. Many more American workers are exhausted at the end of a working day and would like a more relaxed life (Handy, 1998:28-29). Globalisation is seen as a

machine with skilful hands on board, but with nobody steering it. Meanwhile its speed is increasing all the time. While this is taking place, a feeling of resignation exists – that nothing can be done to stop it. Elliot (1997), however, argues that globalisation takes place within countries and those who want to, can take control of it. The recent crisis in the southeast Asian financial markets could have been avoided had there been curbs on international capital. If this does not happen soon, currency fluctuations will decrease growth and push up unemployment. The global elite would be enriched, but workers at the other end would be without jobs – increasing the already huge inequality (Elliot, 1997:37).

Sutherland (1998:62) agrees with this assessment of globalisation: *'It can be a whirlwind of trade and investment that builds economies and spurs development in even the world's poorest nations. But it can also bring economies low overnight.'* Some of the effects of globalisation have been good: increased world trade, productivity and efficiency and creating jobs. The most telling effect has been increased international investment in developing economies. But globalisation threatens to leave many behind such as the sub-Saharan African countries that are not integrated into the world economy. Sutherland (1998:62) identifies challenges that globalisation needs to overcome to continue to deliver: ensure that all countries benefit from it; dispel the fear that it is not destabilising; and inform industrialised countries that international competition will not lower living standards. Globalisation of trade and investment has weakened the independence of some countries and made life less predictable for individuals, but it has lowered costs, increased variety and opened more markets (Sutherland, 1998:62).

Wackernagel (1997:35) says that South Africa cannot ignore globalisation. As was mentioned before, South Africa is out of touch with global standards and so is not keeping up with its competitors. The government supports globalisation and sees it as being an integral cog in creating growth. Employers feel that local companies and the labour market lag behind competitors. This will hamper South Africa's continued participation in the global market.

Nel (1997:35), discussing the labour market, says that globalisation demands high levels of flexibility in the labour market. However, South Africa's strong democratic commitment requires that flexibility be compatible with labour market security. Increased inequality could be the outcome if South Africa relies too heavily on market forces, as it could affect job security. Regarding trade liberalisation, Nel (1997:35) suggests a review of the proposed schedule and if job losses may occur, South Africa should not lower tariffs faster then required by GATT.

The trade unions also realise the inevitability of globalisation. At a National Union of Metalworkers of South Africa (NUMSA) workshop in 1991, von Holdt (1991:20-21) reported that the union accepted that the South African economy would be affected by globalisation. Those countries that have tried to protect themselves against the effects of globalisation, such as international competition, have not been successful. The result was often a deeper economic crisis. South Africa should adopt an offensive strategy when dealing with globalisation (von Holdt, 1991:21).

Globalisation and trade liberalisation under GATT have opened markets that were previously heavily protected. This has lead to an increase in competition: domestic and overseas markets are now flooded with new providers of goods. Previously these new providers or firms were from the industrialised countries, but that has changed, as more firms from developing countries are now able to compete, even in industrialised markets. There is a growing realisation that in order to be successful a firm needs to be internationally competitive. That also includes firms only involved in local markets, as international players are now present in these local markets. An international player might be a small, highly efficient firm from a newly industrialised country or a multinational corporation with tentacles all over the world.

Handy (1998:25) describes competition as an essential part of any system as it sets standards and provides the basis for comparisons. Firms and countries use it to compare themselves with others on price and quality. Competition is the fuel for the economy. But Handy (1998:26) warns that even though the United States has increased its competitiveness since 1992, only half of the new jobs created could be

described as good. The United States is getting richer, but some Americans are getting poorer. Compared to Europe, which has not pursued competition as aggressively *'the poorest 10 percent in America now earn only half the amount their counterparts do in the leading European economies'* (Handy, 1998:27).

Porter (1990:xii) perceives one of the problems of competitiveness to be the fact that there is no recognised definition: *'to firms, [it] meant the ability to compete in world markets with a global strategy...to economists, it meant a low unit cost of labour adjusted for exchange rates.'* What is sure is that the national environment plays a crucial role in competitiveness. It is thus important for governments to also understand competitiveness and the role of the nation in it. This way an environment can be created where competitive advantage is established and sustained. However, firms still have to do the competing in their specific industries. The home nation influences the ability of its firms to succeed in particular industries (Porter, 1990:Xiii). There are many explanations as to why nations are competitive or not. Porter (1990:5) does not agree with any of the following: it is a macro-economic phenomenon driven by exchange rates and budget deficits; it is a function of cheap and abundant labour; it depends on owning many natural resources; it is influenced by government policy; or it depends on management practices and labour relations.[11] Porter (1990:6) states that the *'only meaningful concept of competitiveness at the national level is national productivity'.* Productivity is the value of the output produced by a unit of labour or capital. If a nation has high labour and capital productivity it would be able to provide a good standard of living for its citizens. This is because it is the main cause of national per capita income. Labour productivity determines a worker's wages, while capital productivity determines the return for its owners. Firms can contribute to improved productivity by increasing quality, adding variety, improving product technology, and improving production efficiency. As Handy (1998) stated earlier, international competition and exposure to it, creates a standard. It creates for each industry an absolute productivity standard

11 See Porter (1990:3-5) for evidence as to why these explanations are not adequate.

concerning international competitors, not just a relative productivity standard within a domestic market (Porter, 1990:8).

Porter (1990:35) identifies five competitive forces in which the nature of competition in industry is embodied: the threat of new entrants, the threat of substitute products, the bargaining power of suppliers, and of buyers and the rivalry among existing competitors. These determine industry profitability because they determine the prices of products, the costs and the investment required to be successful in a specific industry. If the true forces are favourable, many firms in that industry can be successful. However, if pressure from one or more of the forces is intense, few firms will be able to be very successful for long periods. Porter (1990:735) states that companies and economies are successful because of pressures and challenges that force them to improve. If there were no competition there would be no incentive to thrive and be even more successful. The same applies when there is outside help – be it in the form of tariffs or quotas or otherwise. Instead of taking away national character, international competition will make national character more decisive. *'Globalisation makes nations more, not less, important'* (Porter, 1990:736). It is necessary to qualify these views: it might be very relevant to a strong industry in an industrialised country, but it could be suicidal if a struggling industry, such as the South African textile or clothing industries, were to liberalise trade recklessly. In an ideal world, the removal of all tariffs and quotas would create wonderful trade and growth opportunities, but in South Africa with its protectionist past this cannot happen yet. Fragile, local industries need to first show some growth or stabilisation, before there can be free trade.

Porter (1990) and others' notion of competitiveness is not uncontroversial. Lloyd (1994:38-39) observes that discussions on competitiveness between nations do not take into account that economies do not compete in the way that companies do. It is then debatable whether one can extrapolate world-class strategies from a successful company to a nation. Gindin (1995:37) criticises competitiveness as an ideology of the new era of capitalism. Initially, after World War II, capitalism in the developed countries delivered the goods and created good living standards. However, in the

past two decades what was understood to be success has been labelled a barrier to progress. These include rising wages, job security and equality. This ideology now determines that productive forces are there to strengthen the capitalist class and individual companies. In the three decades after Word War II capitalism granted concessions to workers. Since then, in the name of competitiveness, capitalism has asserted that those concessions were too much and must now be recovered. Capitalism now thrives on the negative instrument of fear: give in or else. Competitiveness forces a full international integration on South Africa and this will shift the local balance of power to business. Gindin (1995:38) asserts that the ideology of competitiveness will weaken the Reconstruction and Development Plan (RDP). *'A mobilisation in support of competitiveness which means a mobilisation in favour of realism, of limiting any diversion of resources to non-productive uses, maintaining investor confidence, strengthening the role and judgement of market forces, etc – will very concretely tend to weaken commitment to the RDP'* (Gindin, 1995:38). These words are proving to be correct. The government closed its RDP office and adopted Growth, Employment and Redistribution (GEAR) as its macro economic strategy. In contrast to the RDP's 'growth through redistribution', GEAR states 'growth then redistribution'. This is an effort to be more competitive and investor friendly.

Chapter 3 The environment

3.1 Manufacturing in South Africa

This thesis has examined work organisation in manufacturing and competitiveness in this sector thus far. In this section there will be a short overview of the current state of affairs in manufacturing in South Africa: what are the challenges facing it, what is its weaknesses and strengths and what do further prospects look like.

The Central Statistical Service (CSS) (1996:2.26) says that in 1994 there were 1 399 513 workers in manufacturing in South Africa. This is compared to 1 317 200 in 1977. After 1977 the figure grew and reached a high of 1 542 618 in 1982. It then decreased, but grew again to 1 531 072 in 1989. Since then it has decreased to the current level, which is lower than that of 1980. In 1950 manufacturing accounted for 15,9 percent of total employment. This grew to 24,2 percent by 1993. After South Africa became a republic in 1961, there was an all-time economic boom with growth rates of 5,3 percent per year until 1972. The period until 1978 saw erratic and unimpressive growth rates of 2,9 percent average per year. From 1979 to 1984 it improved to an average of 3,1 percent per year. But foreign debt, political crisis, disinvestment and sanctions resulted in an average growth rate of 0,9 percent per year from 1985 to 1991 and –1 percent in 1992 and 1993 (Barker, 1995:63). Labour productivity in manufacturing from 1970 to 1992 increased at 0,9 percent per year, while capital productivity decreased by 2,5 percent per year. This is in the context of a 1 percent increase in labour productivity in the private sector and a fall of 1,9 percent per year in capital productivity (Barker, 1995:93).

In 1991 the ISP was commissioned by COSATU to help develop an industrial strategy for the South African manufacturing industry. The ISP (1994:49) regards this industry as important as nearly a quarter of formally employed South Africans work in manufacturing. The industry can generate high-paying jobs, produce affordable basic commodities, ease the balance of payments constraint and raise the

productivity of the economy. There are many problems in local manufacturing: output was lower in 1992 than in 1981; employment has stagnated since 1980 and began falling in 1990; investment has fallen since the early 1980s; where there is investment, it is in the capital-intensive sectors; local trade performance is poor, because most of exports, primary products, are not in high demand; manufactured exports, although growing, have not kept up with competitors' rates; poor export performance halts general economic growth; for the past two decades productivity growth has been low compared to our competitors; and South African manufacturers cannot compete in non-price criteria, such as quality, specialisation and delivery, which is becoming more important (ISP, 1994:51). Another problem is human resources. Developing human resources is essential for efficiency in manufacturing. In order to achieve long-term productivity increases, changes to work organisation and structures are important. But, well-trained and skilled workers are necessary for this – something that South Africa does not have an abundance of (ISP, 1994:66).

The LMC (1996:76) also identifies South African firms' relationships with their external environment as an impediment to productivity growth and performance. There are no strong relationships with suppliers and buyers, with other firms in the same industry and with tertiary education institutions and science councils. This retards the introduction of new methods of production, new technology and increases in productivity. Another constraint to the success of firms in South Africa is the relationship between management and workers. This includes authoritarian and racist supervision; adversarial relationships between management and unions; absence of industrial democracy and structures for worker participation; workers' poor identification with issues of productivity; and volatile industrial relations (LMC, 1996:76).

Another problem identified by the LMC (1996:93) is that South African managers are importing new production methods without heeding to the warnings that go with these methods: there should not be piecemeal introduction of parts of an integrated package of measures and simple importation, without adaptation of the measures developed in unique circumstances, should be avoided. These new production

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methods were conceived in the context of flat management structures and smaller earnings differentials than in South Africa. This, coupled with the fact that they will be introduced into organisations with problems as described above, will hamper their success (LMC, 1996:93). Von Holdt (1991:19) also identifies certain barriers to the adoption and development of new ways of work organisation. The low level and piecemeal use of computers and new production methods; the increasing skills differential within the black working class; division between members of unions along racial and skills lines; and the low levels of skills and inefficient education system of South Africa.

Contrary to the ISP (1994), Bell (1995) argues that the South African productivity growth slowdown is more of a consequence than a cause of the slower growth of manufacturing. It is also important that the crisis currently experienced in local manufacturing should be seen in terms of the unstable macro-economic environment of the 1970s and 1980s that affected developing countries all over the world. The debt crisis, which Bell (1995:9) describes as the most obvious source of crisis, is not even mentioned in the ISP report.[12]

3.2 The global textile and clothing industries

Because of the importance of clothing in people's lives, most countries have some kind of textile and clothing industry. These industries do not only provide people with clothes, they also provide goods for consumption and create many jobs, which provide wages for people (Toyne et al, 1984:50). The apparel textile pipeline consists of fibre suppliers, textile mills, garment manufacturers and retailers. Fibre suppliers can either produce chemical or natural fibres. Textile mills then use these fibres to produce fabric. This can be done by spinning and then weaving or knitting. Fabrics that will be transformed into apparel or garments go to garment manufacturers who make finished goods. From here it moves on to retailers or whoever sells the finished goods. There are two other major end markets in the

12 See Bell (1995) for an alternative view on South Africa's productivity growth performance.

textile pipeline: home furnishings and industrial goods.[13] The employment nucleus of this pipeline is in the textile mill and the garment manufacturer. These two sections are directly dependent upon the sales at end markets for their well being as all the goods that they produce end up there. Most countries manufacture textile products, but not all of them have the capacity to support the entire pipeline. Hence, pipelines might differ drastically from each other. Some pipelines might have to import chemical fibres, others the textile machinery, while for others importing fabric or even finished goods might be more viable (Toyne et al, 1984:8).

Toyne et al (1984:10) divide the pipeline into three major segments: fibres, fabric formation and finishing and end-use manufactured products. Fibres consist of two groups: natural and chemical. Natural fibres include cotton, wool, hemp, silk, linen and jute. Chemical fibres include rayon, polyester, nylon and acrylic. There are many natural fibre producers around the world, but few producers of chemical fibres. This is because the latter is very capital and knowledge intensive and has large manufacturing economics of scale. The result is that industrialised countries dominate this section of the pipeline. The textile industry consists of yarn spinning, fabric forming and fabric finishing. Yarn can be categorised into either staple-fibre yarn or continuous filament yarn. Producers of the former are known as spinners, while those of the latter are known as throwsters or texturisers. The major use for yarn is to weave or knit fabric or tuft carpeting. The three principal methods of producing fabric are weaving, knitting and non-woven technologies. When fabric is sold from the forming machine, it is known as greige. The fabric segment in most countries has broadwoven fabric and narrow and knit fabrics as major outputs. The finishing process is the final one in the textile industry. It is knowledge and capital intensive and is of huge importance as it affects the product competitiveness in the market. Finishing provides comfort, durability and aesthetic qualities. Included in this section is yarn and fabric wet-process where either yarns or fabrics are bleached, dyed or chemically finished. Usually, apparel fabric is produced by larger firms, which require a large minimum order of one colour or design. Firms usually

13 See Figure 3.1 in Toyne et al (1984:9).

specialise by type of fabric because of different equipment and processes required. They are thus very rigid and inflexible, unable to provide a variety of products in a short time. The final section is the manufacture of end-use products. End-use applications are apparel, home furnishings and industrial. These 'cut and sew' companies transform two-dimensional roll goods into three-dimensional utility items. The different operations in this section are cutting, sewing, pressing, packing, marketing, and dimension determination. The apparel manufacturing process starts with the design of the product based on forecasts of fashion, style and needs of the customers. Then the design is made into patterns, which are used to cut the fabrics. It is sewn into garments, tagged and shipped to end markets. Here fabric is still cut and sewn as it was forty years ago. This section is labour intensive, fragmented and price competitive. Only large firms typically produce apparel in more than one category, price and fashion range. Once again, these are not very flexible and unable to produce a variety of goods or ranges (Toyne et al, 1984:10-16).

Toyne et al (1984:20) identify six stages in the development of the textile complex: from embryonic to declining. The embryonic stage, found in the least developed countries, is geared only toward consumption for the local market. Natural fibres are used to produce elementary fabrics and garments. The second stage, consisting mainly of southeast Asian countries, sees the export of apparel – be it low end, mature varieties or embroided apparel. Eastern European countries and China currently occupy the third stage. In it there is a sharp rise in domestic production of fabrics and also initial exporting of fabrics, to go with the apparel exporting. Countries in this stage also develop their own fibre section. In the *'golden age'* or fourth stage apparel and fabric production is more sophisticated, so is chemical fibre production. There are also huge trade surprises. Taiwan and Korea occupy this stage. Full maturity is reached in the fifth stage. Total output may increase, but employment declines as capital intensify increases. There are high levels of product and process sophistication as is evident in the United States, Italy and Japan. The sixth stage witnesses a significant decline in employment and firms. Trade deficits appear and segments seem to be dying. Some Northern European countries such as the United Kingdom and France are in this stage (Toyne et al, 1984:20-21).

Hunter (1990:1) says that textiles and apparel are often seen as *'sunset industries that are a kind of drag on the overall economy'.* However, the productivity increases in these industries in the United States have been some of the highest in manufacturing. The problem is that, especially for apparel, they are labour intensive. This puts them at a disadvantage, as the low wage countries are moving into these industries. The textile complex (Toyne et al, 1984) or apparel textile pipeline (Hunter, 1990), is the longest and most complex of manufacturing supply systems. The reason is that it was developed when time was not of great concern and the garment had a long life. There are an enormous amount of players in the apparel supply system. This is because of its complexity and length. The result is that competition is intense and the financial performance of the industry is below average in manufacturing. The emphasis on long manufacturing runs and the large minimum order quantities result in large raw material and finished goods inventories. The result is a pipeline of sixty-six weeks for apparel made from woven fabrics in the United States. Only eleven weeks are actual 'work in process' time – when value is being added and the product converted. For knitted goods the pipeline is six to seven months with the inventory making up two thirds of that time.[14] One of the reasons for this is inventory duplication. The supplier holds product as finished goods, while at the same time the buyer holds the same product as raw material. This serves as cover for the buyer against late deliveries or unacceptable quality and is also known as just-in-case stocks. Apparel retailing is a seasonal business so demand is variable. To meet this demand, producers build stocks and then draw from it as customer activity increases. These stocks can never be done away with, but using flexible manufacturing techniques such as Quick Response, seasonal inventories could be levelled (Hunter, 1990:19-21). The shortcomings of the apparel textile pipeline – excessive inventories, stock-outs and forced markdowns – can be quantified. It adds up to 25 percent of retail sales of which more than 23 percent occurs at the retail and apparel manufacturer level (Hunter, 1990:31).

14 See Diagram 1 in van der Riet, 1989.

Another problem in the apparel pipeline is the reliance on the 'push' method. Van der Riet (1989:A3-2) explains it as follows: retailers make educated guesses as to what the customer would like and then set up the pipeline and produce goods according to these guesses. The guesses are made using information from fashion shows, fabric shows, market weeks and range showings. Occasionally the guess would be wrong and the customer does not buy the product available – hence, the name 'push' method as the retailer pushes their product on the market. If the customer did not like the product it would be too late to change to another product because of the length of the pipeline. The pipeline would thus be clogged up with that product (van der Riet, 1989:A3-2).

Maree (1995:13) names two international trade regulating mechanisms in textiles: GATT (which has already been discussed) and the Multi-fibre Arrangement (MFA). Hunter (1990:10) says that the MFA provides the ground rules for international trade in textiles and apparel. It provides procedures for importing and exporting nations on quotas. This causes it to violate the rules of GATT, which prohibits quotas. The MFA imposes a system of quota control for textile trade between 'north' and 'south'. However, all the signatories of the MFA do not always adhere to the rules. Some low-cost exporting countries exceed the 6 percent per year growth rate suggested by the MFA, others erect non-tariff barriers to imports, while Hong Kong, Taiwan and South Korea dominate the poorer countries for which the MFA was implemented by still being (mistakenly) regarded as developing nations (Hunter, 1990:10).

Cassim (1992:2) observes that the character of the international clothing market has change drastically since the 1980s. In the developed economies it has become more fragmented because of changes in consumer tastes, the volatility in demand and the high capital costs of stocks and work in progress. This has meant a move away from mass-standardised production to flexible specialisation. The advantage held by long-run garment manufacturers has been ended because price has become less important. Retailers and manufacturers are now targeting specific groups of consumers and are responding quicker to short-term trends in the sales of individual product lines. In the lower end of the market longer production runs are still used

more often (Cassim, 1992:3). Phillimore (1989:83) describes the firms concentrating on the lower end of the market as the primary sector, while the small batch producers are the secondary sector. The latter is much less unionised, labour laws often do not apply and is more flexible in output, wages and employment levels. Lloyd (1989:101) says that clothing is often used as an example of the move from Fordism to flexible specialisation. This is because of the fragmented demand, the introduction of computer technology, the targeting of niche markets and the closure of large factories.

Whitaker (1991:211) mentions that companies in developed countries have used this move to flexible specialisation to respond to the import penetration from low labour cost countries. In low value added sectors, such as T-shirts, price is still the most important factor. A country like China, because of low wages, is able to compete very successfully in this sector. Standardised mass production, together with low wages, gives them the advantage with products such as T-shirts. Industries in more developed countries are trying to capture the smaller, more lucrative market segments that require high quality, high style clothing. They do this using flexible specialisation methods (Whitaker, 1991:212).

Apart from flexible specialisation, other strategies have been devised to improve firms' competitiveness in the textile and clothing industries. These include an improvement in technology, more flexibility (see Whitaker, 1991), research and development, increase in labour and capital productivity, industrial district strategy (see Piore and Sabel, 1984), just-in-time and Total Quality Management (TQM) (see Bessant, 1991) and inter-firm linkages (see Bessant, 1991). This thesis will focus on Quick Response as a possible solution, but before that it is necessary to examine the current state of affairs in the South African textile and clothing industries.

3.3 The local textile and clothing industries

In 1994, according the CSS (1996:2-28), the formal sector in the textile industry in South Africa employed 67 892 workers compared to a high of 113 700 in 1981. After

1981 the number dropped off, but it rose to more than 100 000 workers again in the late 1980s. However, since then it declined drastically to a low of 65 955 in 1993. In the clothing industry, the number of workers in the formal sector stood at 124 538 in 1994. In 1977 there were 109 600 workers. The number grew to 135 165 in 1982 and then fluctuated to reach a high of 139 239 in 1988. It declined after that, but rose again quite substantially in 1993 (CSS, 1996:2-29).[15]

Maree (1995:22) states that the South African textile industry established itself as a major sector only after World War II. By making use of tariffs and quotas, it was able to grow rapidly until the end of the 1960s. Even with this growth, it was neither economically efficient, nor internationally competitive. From 1972 to 1981 the local textile industry had a strong growth rate of 5,7 percent. Production reached a high in 1981 of R9 721 million. The phase from 1981 to 1992 saw a decline in the industry. Output dropped sharply (especially between 1981-1985) and so did employment (IDC in Maree, 1995:25). Capital investment in the textile industry is below the manufacturing sector's average. The proportion of capital stock within the manufacturing sector was halved to 2,4 percent from 1972 to 1990. The result is that the majority of machinery and technology are dated. Concerning value-added, the aim is to achieve a higher value-added per unit of output over time. In South Africa this has not happened: the proportion of value-added in total output has remained virtually constant from 1972 to 1990 around 27 percent. However, the value-added per employee has increased in this period, as well as the labour productivity, which grew at 7,6 percent per year on average. This is compared to capital productivity (output per unit capital), which increased at a minuscule level (IDC in Maree, 1995:26-32).[16]

The textile industry is mainly concentrated in Kwazulu-Natal and the Western Cape. These two regions employ almost 60 percent of workers in the industry. Other important regions are Gauteng and the Eastern Cape. Although there are a large number of firms in the industry, production is concentrated in the hands of

15 For a study that includes the informal sector see Joop de Voest (1998).
16 For a comparison of these statistics with other countries see table 3.3 in Maree (1995:34).

comparatively few large enterprises, some that are subsidiaries of conglomerates (Maree, 1995:36-7). South Africa is also unique in that the local demand for fabrics varies from third world standards to high fashion merchandise. Hence, a wide variety of fabrics are required, which are then also produced by local weaving mills. Research has found that the textile industry is too production-orientated and insufficiently market-orientated. The local industry can supply most of the country's demand, but some specially knitted fabrics have to be imported (Loots, 1992:2).

Compared to the more *'oligopolistic capital-intensive'* textile sector, Loots (1992:3) reports that the clothing sector is highly competitive with about 1 500 manufacturers. It is also a major employer in South Africa. Not only does it have the oligopolistic textile sector on the supply side, but also an oligopolistic retail sector on its output side. Similarly to the textile sector it is also caught between two worlds: a first world cost structure versus a third world demand structure. The clothing industry is also concentrated in the Western Cape and Kwazulu-Natal. Locally produced clothing is of high quality and variety and aimed at the middle and upper end of the market. The cost of raw materials dissuades manufacturers from providing for the extreme lower end of the market. Development of the clothing industry in South Africa is largely dependent upon growth in domestic demand. Labour costs make up 29,2 percent and raw material costs 52,8 percent of the ex-factory selling prices in this industry. (So in this labour-intensive industry, fabric constitutes more than half of the price. Hence the price of fabric is more important for costs than wage levels.) Concerning productivity, the National Productivity Institute (NPI) found in the late 1980s that cost and productivity, locally, allowed for manufacturers to be quite competitive. At the same time, technology improvements were also evident, resulting in time saving and the improvement of labour costs per unit of output. However, this technology is very expensive and has thus excluded smaller companies from this type of improvement. The clothing industry, itself, blames the cost of raw materials, late deliveries and shortages for its competitive disadvantage (Loots, 1992:3-4).

Textile and clothing are important sectors in the Western Cape. With footwear, it constitutes 18 percent of manufacturing gross output of the Western Cape. In manufacturing value added its share was higher than 20 percent. Twenty-six percent of South African manufacturers of textiles and 28 percent of clothing are in the Western Cape (Loots, 1992:7). October (1996:6) believes the clothing industry in the Western Cape was in a major crisis in the 1990s. Employment here has dropped by almost 15 percent between 1990 and 1994 and clothing production has declined by 20 percent. Yet, clothing retail sales have increased at 7 percent per year. The decline in production can be ascribed to the increase in imports of clothing – new and second-hand. Employment reduced even more in 1995 and 1996. October (1996:6) blames illegal imports and tariff reductions. On the positive side, exports have increased in the 1990s – 50 percent originate from the Western Cape – from R118 million in 1989 to R460 million in 1992. These still only account for 0,4 percent of world trade. Regarding the overall Western Cape manufacturing, textile and clothing accounts for more than one third of the region's manufacturing employment. The Western Cape textile industry is the second largest in South Africa and produces 20 percent of all textiles. There were 180 textile firms and 538 clothing firms in the formal sector in the Western Cape in 1994. Most of South Africa's major clothing retailers are also based in the Western Cape. They account for more than half of South Africa's clothing retail sales. Most of the 538 clothing firms in this province have indicated that they are supplying to only a few retailers each. Reasons for this are the cost of transactions and the instability of small retailers and boutiques (October, 1996:8-9). Loots (1992:9), discussing profit figures for clothing and textiles, is not optimistic about these industries: they make up only 1,5 percent of total manufacturing profits, compared with 20 percent of value added, 25 percent of wages and salaries and 30 percent of manufacturing employment. (The clothing industry was the only one to experience negative profits.) These industries are low wage industries, which Loots (1992:10) attributes to the high proportion of female labour. Wages will probably stay low due to the ease of entry into the industries (coupled with this is the low level of

education), the nature of clothing production and the low capital cost of setting up a factor.[17]

South Africa shares in most of the problems faced by the textile and clothing industries in other countries – be it in varying degrees. However, there are certain problems here that are unique to this country. The combination of these two groups of problems, produce an enormous stumbling block in the path of success. One problem that is also found in industrialised countries is dumping. This is when overseas products are sold in a country below the price they are sold at in their home market. The products are often made in east Asian countries where wages are very low and mass production is still cost-efficient. They are usually not aimed at the middle and upper market. A related problem is the 'leakage' of containers of fabric and clothing that enter South African ports. The products are, supposedly, on their way to neighbouring countries, but leak into the local distribution pipeline, before reaching their destinations. The problem became so acute, Stewart (1995) reports that both industries have called for improved customs control at South African harbours on goods entering and leaving the country.

Another problem encountered in the textile and clothing industries is their relationship with the retailers. October (1996:17) argues that the oligopolistic nature of the retail industry has reduced profit levels in the textile and clothing industries. Although the high standards adhered to by local retailers have increased the ability of the rest of the pipeline to produce high quality fashion products, there are hitches in the relationship. There are three phases in this relationship: initially, manufacturers supplied to many independent retailers and had short runs. They did their own designs and had their own brands. The second phase saw retailers becoming more powerful. They became vertically integrated, took over the design function and brands. Manufacturers became glorified sub-contractors for huge retailers, so much so that manufacturers felt owned by retailers because of their dependence on a specific retailer. Production runs increased and larger factories sprung up. In

17 See figure 11 in Maree (1995:5).

the third phase, design returned to manufacturers due to the cost of it and the quality of designs by manufacturers. The high cost of clothing in retailers and the small price manufacturers were paid for it led to some manufacturers opening their own retail stores. This was a direct route to the market (October, 1996:18).

Cassim (1992:4) states that retailers' problems with South African clothing firms include problems of delivery, quality, and long lead times. As retailers are often increasing their orders from two to four times a year, these problems have been exacerbated. It is now more important for the rest of the pipeline to have shorter lead times. Cassim (1992:5) says that due to the monopolised nature of retailing, garment manufacturers have no choice but to supply a large percentage of their products to large retailers. This makes the manufacturers very vulnerable as products not made exactly to specification or that are late could easily be rejected. Garment manufacturers also complain about retailers' high profit margins and the fact that they squeeze manufacturers. Thus, even with high fabric costs, retailers still enjoy healthy profit margins and customers have not benefited from lower fabric prices (Cassim, 1992:5).[18]

Cassim (1992:3) observes that the local clothing industry will not be able to compete with a high volume/low price strategy. It is because this strategy relies on low wages to provide an advantage but local real wages are constantly increasing. Also because the local clothing industry cannot cope with high volumes as required by this strategy. The reason for its small size is the small domestic market. However, a move upmarket will impact on job opportunities. If firms start producing high quality, high fashion products and expand their output, it will not necessarily increase employment. A decrease in production runs and an increase in variety are occurring at many clothing firms moving upmarket. Upmarket means more prominence to flexibility, shorter production runs, shorter lead times and product variety (Cassim, 1992:4).

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18 See Maree (1994:6) for more on this unhealthy situation.

Maree (1995:17) earmarks another potential problem: as was mentioned before, the MFA violates the rules of GATT, so it will be abolished. For some countries it will be a benefit as they have high technology, low labour costs and sophistication in design. Those countries with market proximity (such as Central America, which is close to the large United States market) will also benefit from the abolition of quotas on textiles. But South Africa might struggle. The way to deal with this is to secure export markets while the MFA and other tariffs are being phased out. Maree (1995:17) also urges South African textile producers to move closer to their customers – not necessarily geographically. If textile firms have reliability and quality, they can ensure that they can fulfil their customer's needs. The way to achieve this is through implementing Quick Response.

Loots (1992:12) identifies the long-standing tension between the clothing and textile industries as another major problem. In the past the latter has pushed for the maximum tariffs to protect it against fabric imports. However, the clothing industry wanted the opposite. Many clothing firms imported fabrics, despite high tariffs and the depreciating currency. This is because of the availability, reliability and price of imports and the late deliveries and supply shortages locally (Cassim, 1992:4). Manuel (1994:26), then Minister of Trade and Industry, observes that the tariffs on clothing and textiles are, on average, the highest for any industrial sector. The result is an increase in the leakage of clothing and textiles into the economy. This renders any existing policies and measures on imports and tariffs obsolete. In 1993 with the signing of the Uruguay Round of GATT negotiations, this situation started improving. Maree (1995:58) says that South Africa committed itself to a gradual reduction of its tariffs on textiles and clothing over an eight-year period. Initially tariffs will remain at their current levels, allowing local firms to adapt and prepare themselves. Thereafter it will be reduced by 50 percent or more. Stewart (1994:23) explains the situation as follows: in the past local consumers paid the price for the inefficiencies of the two industries in the form of duties and import controls. But trade liberalisation under GATT abolishes demand-side subsidies and local content incentives. Unless the government can achieve a

balance between tariffs and imports, these already vulnerable industries can go down. The balance is between providing sufficient protection to ensure new private fixed investment, while allowing importers to keep domestic firms competitive (Stewart, 1994:23).

In June 1995 Trevor Manuel announced the trade and industry tariff proposal for the textile and clothing industries. Finance Week (1995:9) reports that contrary to the National Clothing Federation's five-year proposal, the Swart Report's ten-year proposal and GATT's twelve-year proposal, the phasing down of tariffs will take place in eight years (from 1994 to 2002). Cloete (1995:31) is of the opinion that it favours the textile industry and the trade unions more than the clothing industry, while others see it as a genuine compromise between the two industries. Millward (1995:39) says that the Southern African Clothing and Textile Workers Union (SACTWU), has blamed job losses on tariff reductions. This and the possible demise of the textile industry are what probably resulted in Manuel announcing the eight-year period. Cloete (1995:31) says that eight years are less than GATT's proposal or the ten years put forward by the textile industry. Hence, it will still be a challenge to the local textile industry to become competitive. This might be a compromise, but it does not heed the earlier warning by Nel (1997) on lowering tariffs faster than required by GATT, as it could lead to increased job losses. Finance Week (1995:9) welcomes the move for its courage. It gives a message to local firms that they have to become competitive soon and to the outside world that rational economic judgement from government is more important than domestic considerations. This view of adhering to *'rational economic judgement'* could cause problems in local industry as discussed in the section on globalisation and competitiveness. If South Africa were a strong economic power, by all means adhere to *'rational economic judgement'*. But, with huge unemployment, weak local industries that existed behind protective walls and wage inequality there has to be some measures to ensure a strong economic and social system before our tariffs are halved. If economic growth and implementing these measures take twelve, instead of eight years then use the extra years, rather than destroying an industry and eighty thousand jobs.

The Swart Report on the clothing and textile industries, as discussed in the Bilateralism Review (1994:80-83) identifies other problems in these two industries locally: technology is outdated and needs to be upgraded; skills development is lagging behind; and management attitudes and the lack of participative management are impediments to improved productivity. An increase in technology could lead to job losses. Maree (1994b:11) cites research by Werner International on labour productivity in South African mills: spinning mills achieve only 21 percent to 34 percent of international norms while weaving mills do not do far better than that. Another study found that fabric and cutting and sewing lead times are also way behind that of internationally competitive firms. These studies found that the problem is work organisation. If more modules and teams of multi-skilled workers were used it would increase labour productivity.

Maree (1995:110) identifies a major problem in the apparel textile pipeline: *'volatility in demand due to the amplification of changes in consumer, and hence retailers', demand for textile apparel'.* A fluctuation in 10 percent at the retailer due to changes in selling affects the other parts of the pipeline, so much so that the fibre spinner could have a fluctuation of 40 percent in demand. The further away a company is from the retailer the higher the volatility of demand for a product. Hopper (in Maree, 1995:111) names two reasons for this volatility in demand: firstly the length of the pipeline. Secondly, the stocks held by each sector (often before and after production) directly cause and determine the extent of upstream amplification in the pipeline. The direct cause of amplification is the stock holding decision of each sector. The way the pipeline is structured magnifies small changes in retail sales and amplifies the effect the further upstream one goes.[19] A 10 percent drop in sales forces each sector into using some of its stockholding to meet the lower closing stock requirements. Amplification results in the drop in sales almost doubling to 19,5 percent by the time it reaches the spinners. An increase in sales has the opposite effect. The way to rid the pipeline of its

19 See figure 7.2 in Maree (1995:112).

volatility is by cutting stock levels. A cut in stock levels will ultimately decrease the drop in sales at the other sectors when retail sales drop. The lower the stock level, the smaller the decrease in sales at the other sectors (Hopper in Maree, 1995:113-116). One way to solve this problem is by implementing Quick Response.

3.4 Quick Response: a possible solution?

Hunter (1990) says that Quick Response was established in the second half of the 1980s because of the need of clothing and textile firms in the United States to become more competitive. Kurt Salmon Associates (date unknown:2) describes Quick Response as *'a partnership strategy for retailers, manufacturers and mills to achieve faster movement of the right information and products through the merchandising and production pipelines'.* Quick Response strategies can be used for basic and fashion merchandise. It reduces markdowns and increases sales and inventory turns for each sector in the pipeline. There are financial benefits: improved customer satisfaction and increases in market shares.

Quick Response is *'an operational philosophy and a set of procedures aimed at maximising the profitability of the apparel pipeline'* (Hunter, 1990:1). For success to be achieved, there is a precondition: an integration of the fibre, textile, clothing and retail sectors in the pipeline into one consumer responsive whole that relies on the pull instead of push method. Quick Response is dependent on an effective communication system where information can be quickly transferred from the retail point-of-sale to the other sectors. Quick Response aims to reduce the safety stocks that are held in the pipeline by improving communication and trust. Quick Response demands honest and open communication between the sectors, as well as mutual trust. Finally it calls for the use of new information technology to decrease work-in-process, increase customer responsiveness (using pull instead of push method) and to make up for the increased costs due to product diversity (Hunter, 1990:1). Quick Response is a consumer-responsive apparel supply system that has become essential to combat the problems and challenges as described in

previous sections. It attempts to make *'the manufacturing process more responsive to consumer demands by shortening the pipeline and moving the retailer buying process closer to the season for which the garments are intended'* (Hunter, 1990:32). The results are increased financial performance and competitiveness with imports.

Van der Riet (1989:A3-1) adds to the definition of Quick Response that it is a focused strategy built on vertical partnerships (between the sectors in the apparel textile pipeline). It was designed when the apparel industry in the United States lost sales to high quality, low cost imports. The only advantage that these firms had over imports were local proximity – they were geographically close to their customers, which could help them get close in business as well. Quick Response was developed to make use of this proximity. Van der Riet (1989:A3-3) argues that one way to do this is to move from the push method (discussed earlier) to the pull method. Instead of making guesstimates as to what the customer might want, decision-making is moved to the customer – which also reduces the risk associated with the push method. This can be achieved with a thin pipeline where there is a constant flow of goods and not bottlenecks or queues. The pipeline must be flexible or capable to change over quickly while still being efficient in a stockless environment, meaning no just-in-case stocks. Van der Riet (1989:A3-3) states that the cost of not having the right product at the right time at the right place is around 20 percent of sales in South Africa. This is because of returns to manufacturers, excess inventory, stock-outs and markdowns. Van der Riet (1989:A3-17) warns that due to the cost, infrastructure requirements and effort that goes into implementing Quick Response it is essential that firms are sure about the methodology and the technological requirements before embarking on it.

Quick Response is not just about vertical integration between sectors in the pipeline; it is also about horizontal integration and communication between different departments in a firm. Schonberger (1996:20) blames communication dysfunction between the supply-production side and the marketing-distribution side for misguided product decisions and poor service.

There are two ways to solve this problem: supply-chain partnerships such as Quick Response or multi-functional collaborations within the firm. In most firms the marketing-distribution side are unaware of productive capacities and capabilities, while the supply-production side are unaware of customer's needs, hence they only plan to suit their own interest. Schonberger (1996:22) describes the solution as final-demand-based bridge building. This is when a company uses retail sales data to schedule production of garments or other goods. Benetton, the Italian clothing company, realising the uncertainty of the fashion business, would refrain from dyeing a quarter of its output until as late as possible. They would then do it using data from current sales. This system manages to build a bridge between the two mentioned sides of a firm as factories can run quite stable, whilst reacting to certain trends in sales. This system can be improved if the entire pipeline is focused on recent sales at the retailer, ready to produce accordingly. This can be done using point-of-sale bar-code technology. Basic Quick Response can be run by using only a few retailers' point-of-sale data. This sample can provide an idea as to how production schedules should look like. This is in contrast to traditional scheduling, which is done months in advance, based on guesstimates (Schonberger, 1996:23).

Fisher and Roman (1996:87) regard the lead time required to manufacture and distribute goods as increasing in importance. Long lead times with fashion products resulted in losses due to stock-outs and inventories being outdated. Quick Response cuts manufacturing and distribution lead times by using information technology such as point-of-sale scanners and electronic data information (EDI), logistics improvements such as automated warehousing, and improved manufacturing methods such as the reorganisation of the sewing process into modular cells. Quick Response also cuts lead times using operational change such as how often orders are placed and how late colouring-up takes place. Unpredictable demand and the long, complex supply chain are two of the biggest challenges in the apparel industry. The result is that demand forecasts and production commitments must be made long before the actual season. If these are not right, the amount of goods produced can be more or even less than what customers

would like to buy. If it is less there are supply shortages which result in lost sales opportunities. If there is too much of a certain garment (excess supply) the price is reduced, even below the cost of production, until it sells (Fisher and Roman, 1996:87, Iyer and Bergen, 1997:559). Quick Response counters this trend by reducing lead times so much that part of production is committed only after some sales have occurred.[20] Iyer and Bergen (1997:559) agree that sales data can be used to decrease forecast error quite substantially: two research projects are cited as reducing the error by almost 50 percent.[21]

Iyer and Bergen (1997:560) attempted to establish who wins and who loses under Quick Response. Their findings suggest that both manufacturers and retailers are not always better off, with the former more likely to lose under Quick Response. Certain actions may have to be undertaken to make sure that Quick Response is Pareto improving. It will be Pareto improving if at least all the sectors in the pipeline are as well off as before Quick Response and one sector better off than before. Thus, nobody loses with Quick Response. Iyer and Bergen (1997:562) determine whether Quick Response is Pareto improving by comparing the expected profits of manufacturers and retailers before and after Quick Response.

Iyer and Bergen (1997) constructed models of the inventory decisions and profits of manufacturers and retailers both before and after Quick Response. They verified these models by having extensive discussions with different managers and buyers of an American retailer who runs a Quick Response programme. They also had discussion with the Quick Response managers of ten other retailers and used secondary data such as industry reports.

Their models show that under low service levels, Quick Response is Pareto improving but, says Iyer and Bergen (1997:562), they do not expect to see such low service levels in practice. Service level is the probability that demand

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20 Fisher and Roman (1996) modelled first period demand as a portion of total demand allowing production decisions to be made with the help of sales, and also measured the value of Quick Response. See their article for their mathematical models and analysis.
21 See Iyer and Bergen (1997) for mathematical models of the inventory decisions of manufacturers and retailers before and after Quick Response.

is satisfied from available stock. Low service levels imply that the inventory level chosen is lower than 50 percent – meaning that customers find the item they want in stock less than five times out of ten visits. Iyer (2000) regards service level as relevant because *'the profit maximising service level is related to the gross margin (selling price minus purchase price) as well as the goodwill cost (how much a stockout affects whether a customer decides to shop at the store again)'*. Iyer (2000) continues: *'Under low service levels, as the ability to forecast retail demand decreases (i.e. increased forecast error), the profit maximising inventory level carried by the retailer decreases.'* Iyer (2000) explains it in another way: *'As demand forecast error increases, under low service levels, inventory decreases. As demand forecast error increases, under high service levels, inventory increases.'* However, Quick Response allows the inventory decision to be made with additional information, under low service levels. Hence the inventory level would increase after Quick Response. This makes it Pareto improving as profits for the retailer and the manufacturer increase (Iyer, 2000).

Two pre-existing channel arrangements, which Iyer and Bergen (1997:563) identify as providing conditions to make Quick Response Pareto improving are consignment inventory and markdown money. Iyer (2000) describes the former as meaning that the manufacturer owns the retail inventory. Inventory that is left over at the retailer can be returned to the manufacturer for a full refund. Retailers pay holding cost through the season, but have a salvage value for each garment. Iyer (2000) defines the salvage value as *'the price at which retailers dispose of retail inventory that is not sold at regular price during the season. This inventory can be sold on sale or to an outlet store.'* Salvage value is usually lower than wholesale price so the retailer does not make money-selling products at salvage value. Hence, it is in the manufacturer's interest to minimise leftover product and increase the likelihood of Quick Response being Pareto improving.

A manufacturer pays markdown money to a retailer per item left over at the end of the season. The retailer uses this to subsidise markdowns. The amount is usually below the wholesale price. *'If markdown money is high*

enough, then the savings for the manufacturer from reduced retailer end of season inventory may be large enough to make Quick Response Pareto improving' (Iyer and Bergen, 1997:563).

The higher the service level the better the chance that Quick Response will not be Pareto improving (especially for the manufacturer), unless there is additional action. Iyer (2000) explains why action is needed: *'Under higher service levels, decreased forecast error decreases the retailer's inventory purchased. Thus the retailer makes higher profits while buying less inventory – so retail profits increase under Quick Response. The manufacturer, however, sells less product and thus sees a decrease in profits.'* The additional action can be price commitments, commitments regarding service levels or volume commitments. According to Iyer and Bergen (1997:563), a service level commitment is when the retailer offers a higher service level with the exact amounts ordered conditional on the estimated demand.

Regarding service levels, Iyer and Bergen (1997:564) argue that Quick Response does not automatically result in increased service levels. Only deliberate actions will result in an increase in service levels. According to Iyer (2000), retailers that are profit maximising choose service levels based on gross margin and goodwill cost. Thus, as the ability to forecast retail demand increases, the choice of service level does not automatically increase. This choice is based on cost considerations.

Iyer and Bergen (1997:564) identify three ways to commit credibly to higher service levels. The first way is a contractual commitment between the manufacturer and the retailer to provide a higher service level. This contract could state a planned service level of 100 percent for Quick Response products. This guarantees that every time a customer walks into a store his or her choice of product will be there. If it is not, the retailer might send it to his or her home. Secondly, the use of co-operative advertising with service level guarantees. It could guarantee that a store will have every size and advertised colour in stock – if they do not they will get it for the customer at no charge. Thirdly, increasing the importance of a stockout to consumers. Iyer and

Bergen (1997:564) argue that the third approach increases the goodwill costs associated with a stockout and so increases the retailer's incentives to provide a higher service level. An example of the third is when a retailer provides its supplier with a renewed emphasis on a product by giving its items more prominent display space.

On the question whether price commitments play a role in Quick Response, Iyer and Bergen (1997:565) found that wholesale prices paid to manufacturers stayed the same in Quick Response. Price adjustments are not often used to make Quick Response Pareto improving. The preference is to negotiate rather on service levels and volume commitments. Iyer (2000) attributes this to the fact that *'retailers do not want manufacturers to think that improving efficiency and decreasing lead times will increase wholesale prices'.* Otherwise the manufacturer might perform poorly and ask for a price increase to improve performance. Also, most companies have price negotiations at a different time than procurement and logistics decisions.

Iyer and Bergen's (1997:567) research found that retailers used explicit volume commitments to suppliers in Quick Response. This happens when the retailer places an order. It commits itself to buy a certain amount of units of combined products. These commitments could be made using purchase orders in which the volume was specified. At a later date when demand can be assessed, the exact attributes of the garments such as colour, style and size will be decided. To ensure that manufacturers are at least as well off as before Quick Response the retailers' volume commitments under Quick Response have to be at least the same as before. Often, the retailer might want to order less of the supplier's products. If this is the case the buyer might add additional Stock Keeping Units (SKUs) to ensure the same volume commitment (Iyer and Bergen, 1997:567).

Iyer and Bergen (1997:566) see the flexibility of Quick Response as a huge advantage: *'under the old system the retailer would have purchased the same quantity for each item. Now the retailer can order items to improve expected*

profit under Quick Response, thereby making volume commitments Pareto improving.'

Contrary to others, Iyer and Bergen (1997:563) argue that high fashion items may result in the largest losses for manufacturers under Quick Response. With fashion items a retailer is uncertain about a product's popularity and its demand. Yet, for Quick Response the retailer needs to know the customer demand. Thus, fashion items would not allow one to learn as much as non-fashion items (Iyer and Bergen, 1997:563) and would not be as secure in a Quick Response project.

Knorr and Newman (1992:61) suggest that Quick Response be built on a few crucial factors: trust-based relationships in the pipeline; redesigned business process in the entire supply chain; just-in-time delivery concepts; and flexible manufacturing in small batches. Current technology increases the chances of success in Quick Response. Satellites, electronic processing speed, fibre optics, point-of-sale computers and data storage contribute to accelerate Quick Response implementation and progress. Quick Response will result in product inventories in warehouses improving from five or ten turns a year to fifty turns. Knorr and Newman (1992:64) also suggest that companies who intend implementing Quick Response should share data and problems with the other companies in the pipeline. There should be top-to-top meetings involving all the companies in the pipeline. When Quick Response is decided upon, the implementation team must have real authority and must also be empowered by top management.

Returning to warehouses, Hotchkiss (1995:1) perceives a new role for them. Instead of just storing merchandise they become distribution points that add value under Quick Response. Under Quick Response put away, storage and retrieval are replaced by receiving and shipping. The demand for accuracy increases as retailers often charge back for any discrepancies with orders. Hotchkiss' (1995:1) research reveals that Quick Response does not necessarily mean less inventory. Inventory may be redistributed in the pipeline to meet the retailers' requirements. In South Africa the powerful local

retailers might force the weaker producers to hold the stock. Manufacturers or distribution companies can maintain inventory near the retailers' distribution centres. This can satisfy the demand for small orders. The result is that cost and time are not removed from the distribution pipeline, just shifted (Hotchkiss, 1995:1).

In a critical discussion of the relationship between new production systems and work organisation and skills, Cappelli and Rogovsky (1994:205) evaluate Piore and Sabel's arguments that flexible systems of work organisation will require workers with increased skills. Under Quick Response, products and production runs change constantly. Mass production systems are too slow and too expensive per production run to use. A modified system of production, which allows output to be produced to fill orders instead of inventory, is needed. Under Quick Response, a small, highly skilled team equipped with flexible tools handle production. Because of the adaptability of these teams, production can almost mirror sales based on consumer tastes. Cappelli and Rogovsky (1994:220) resolve that Quick Response manufacturing is closest to the flexible specialisation model of Piore and Sabel. Quick Response results in workers performing more tasks; hence more skills are needed. Workers are not governed by an assembly line, so they have greater autonomy. Some production tasks are even moving back from machines to workers. But Cappelli and Rogovsky (1994:220) warn that improvements in the flexibility of machinery might just reserve this trend again. Current machinery is often less flexible than workers and thus, the latter hold the advantage, but increased flexibility in technology could take away this advantage.

In the late 1980s there were efforts in South Africa to implement Quick Response in an apparel textile pipeline. These attempts did not bear any fruit. The ISP (1994:71) reports that the NPI blames local retailers that Quick Response did not take off. South African leaders in the clothing and textile industries, and the large clothing retailers have not taken up the challenge and not honoured Quick Response agreements with the other sectors in the pipeline. Local retailers are in positions of power over their suppliers and they

have not acted on Quick Response yet. These two factors combined are the main cause of Quick Response not being successful in South Africa yet.

Another problem, according to the ISP (1994:71) is the high mark-up of retailers. This stifles demand for the goods of the textile and clothing sectors. Some retailers are so expensive that manufacturers sometimes change retail outlets to increase demand for their products. Often retailers do not pass on savings made by suppliers to the consumers. Quick Response in South Africa will only succeed if there is industrial stability. Hence, the industrial relations system, management and unions play a crucial role. Due to its nature and use of just-in-time, Quick Response cannot be successful if there are frequent work stoppages (ISP, 1994:71).

This section has so far explored what Quick Response is about and what its benefits are but what needs to happen or change in a firm and a pipeline for it to be considered in Quick Response mode? Hunter (1990:2) earmarks the following as its principal elements: rapid development of samples; CAD; flexible, short-run operations right through the pipeline; just-in-time shipping; highly engineered manufacturing such as laser cutting and modular work groups; EDI; standardised bar-coding; pre-ticketing and drop-shipping of garments; frequent shipments of garments; pulling back open-to-buy dates, point-of-sale tracking; reducing initial retail orders to less than 50 percent of requirements; flexible merchandise planning; continuous re-estimation of customer demand; and frequent re-ordering with short lead times. He (1990:3) also identifies the benefits: increases sales volumes; reduced markdowns and stock-outs; reduced costs and prices; increased price validity at retail; improved financial performance; and increased competitiveness because of shorter lead times and increased share in the markets.

Hunter (1990:42) suggests that the first step in implementing Quick Response is the shortening of the traditional pipeline. This can happen when unnecessary inventories and non-processing times are done away with.

Regarding inventories, the first thing to eliminate is duplicate stock.[22] To achieve this, flexible manufacturing must be adopted so as to get rid of the inventories associated with long runs, and just-in-time supplier relationships need to be adopted so that buyers can get rid of their just-in-case (or safety) stock. Minimum stock levels can be achieved if wasted time, wasted material, wasted energy of machinery, and errors are eliminated. Production must take place as if there were no warehouses and goods could not be produced to inventory. Hunter (1990:45) also suggests that Quality Management be adopted and the whole pipeline sets up specifications for products and allows certification of the products. Quality Management can only be successful if there is a change to a more participative management style with increased employee involvement. The adoption of Quality Management procedures will help decrease inventory and work-in-process times (Hunter, 1990:46).[23]

Hunter (1990:51) says that the implementation of the mentioned measures can reduce the pipeline from sixty-six to forty-six weeks. Further reduction to twenty-one weeks will involve full use of current technology, rapid and honest information exchange in the pipeline, and trusting partnerships. These last two might just turn out to be the most difficult, especially in South Africa where the relationships between retailers and suppliers are not good.[24]

Cutting the lead times in a pipeline increases the cost of goods because of shorter runs and more styles. Hunter (1990:59) suggests that certain steps be taken to counter the frequent changeover between styles. Another cost of increased diversity is that of carrying additional inventory by the textile mills. For the garment manufacturers diversification affects fabric utilisation negatively. Diversification results in a smaller number of units of a product and thus it can increase the waste factor (Hunter, 1990:62). There are costs to Quick Response, especially for the mills and manufacturers and if they outweigh the benefits then there is no reason for them to continue just so that the retailer can benefit. One has to return to the suggestions made by Iyer

22 The supplier holds duplicate stock as finished goods and the buyer as raw material.
23 See Hunter (1990:46-50) for measures for each sector to decrease these times.
24 See Hunter (1990:55) for the operational elements that are required for each sector.

and Bergen (1997) to make Quick Response Pareto improving so that no sector in the pipeline is worse off than before Quick Response. These measures can be used to offset the above-mentioned costs.

Hunter's (1990:90) research shows that the cost of operating a $100 billion traditional pipeline is $25 billion. Applying Quick Response can result in a saving of 50 percent with the cost decreasing to about $12 billion. However, the problem is that the benefits favour the retailer and apparel manufacturer far more than the fibre and textile manufacturers. According to Hunter's (1990:90) research the retailer will have a saving of $8,2 billion (or 66 percent of the total savings), while the garment manufacturer will have a saving of $3,5 billion (or 28 percent of the total savings). As a percentage of sales the retailers and garment manufacturers save 6 to 8 percent, while the fibre and textile manufacturers save 2 to 3 percent. This situation worsens when one takes into account that the latter two assume many of the burdens of inventory risk, diversification cost and just-in-time shipping. Hunter (1990:91) suggests that fibre and fabric pricing should reflect the risks taken by the two primary producers. The down-stream customer should take a larger ownership stake earlier in the suppliers products, offsetting the increased costs for the textile and fibre manufacturer in Iyer and Bergen's (1997) words: this might contribute to making Quick Response Pareto improving.

One of the many suggestions that Hunter (1990:157) makes to ensure the success of Quick Response is that of modular manufacturing. In a traditional factory there are long lines with the work progressing in bundles, but in garment manufacturers that have implemented modular manufacturing there are many product centres. In each a complete garment is made by a small group of workers. A product centre is laid out in a horseshoe configuration. The workers are cross-trained to allow real time balancing of the workloads. The change in work organisation should also bring a change in management to reliance on worker participation. The benefits of modular manufacturing are faster response times, enhanced worker motivation, increased quality, lower total costs, freed-up capital, and a system conducive to change and improvement (Hunter, 1990:157-158).

Van der Riet (1989:A3-3) identifies three technological requirements for a company to function in a Quick Response mode. The first concerns the information pipeline. The development of Market Preference Testing and information flow systems on sales by SKU (colour, style and size). This causes sales or customer preferences to dictate production. This can be done using point-of-sale information systems. The second requirement concerns material standardisation: the development of measures to bring about the predictability of materials flow that is necessary in a stockless environment. These measures include tracking methodology. This can be done by bar coding. The third is short cycle manufacturing. The development of manufacturing that can respond to the information on sales quick enough to take advantage of the trends in sales. Measures to do this have been discussed already. Van der Riet (1989:A2-4) then goes on to identify three 'people' components that will set the wheels of Quick Response in motion. The first is vertical partnerships, where the traditional adversarialism in the pipeline makes way for partnerships that can facilitate the implementation and success of Quick Response. Coupled with this is trust in these relationships. Trust and openness must replace the history of over-bookings, late deliveries and cancelled orders. The third component is commitment. Quick Response can only work if all the partners are committed. There must also be a commitment to take up booked production capacity. If this is not done in a short cycle environment, it will be too late for the capacity to be sold to a different retailer (Van der Riet, 1989:A3-5).

Chapter 4 Research methodology

The Textile Clothing Cluster Project of the Western Cape brings together many of the main players in the two industries in the region. It discusses and puts forward solutions to the crisis that the industries face. It identified Quick Response as a possible solution to the problems facing the industry. It decided to implement Quick Response in a clothing textile pipeline, consisting of willing companies as a forerunner to possible wider implementation. The results of this project would have to be presented to the Textile Clothing Cluster Project. On the basis of this evidence it would be decided whether Quick Response is viable in South Africa and whether it can be implemented successfully. The success or otherwise of the Quick Response project would be concluded from the research done by myself, an industrial sociology student, and Thandeka Kunene, an industrial mathematics student. Kunene's aim was to construct a mathematical model of the pipeline – in other words doing a quantitative study. I did a qualitative study.

In order to produce data from my research that would be helpful to the textile and clothing industries, as well as result in an accomplished academic contribution, I had to research the Quick Response project from different angles, using different research methods. From an industrial sociological point of view it was not only important to study the impact of Quick Response on the production process, but also the impact on the people and institutions in the pipeline and their relationships. In this chapter I will discuss the different research methods that I used in constructing this case study, as well as explain why those methods were chosen above other possibilities.

Following on this would be a section on the advantages and disadvantages of using the mentioned methods and how I sought to counter the disadvantages. The last section will be on the validity and reliability of my research and the ethical issues involved. Taking into consideration factors mentioned in the previous chapter, such as the power relationship between retailers and the rest of the pipeline, the adversarialism between textiles and clothing, and the

lack of co-operation between firms on a horizontal level, the section on ethics is of particular interest.

Before continuing with the chapter it would be useful to outline the assumptions of the scientific method. Lastrucci (in Bernard, 1994:3) describes science as *'an objective, logical and systematic method of analysis of phenomena, devised to permit the accumulation of reliable knowledge'*. Bernard (1994:3) highlights three words in this definition as especially important: objective, method and reliable. Although the idea of true objectivity is regarded as a delusion, one must still strive for it. Regarding method, there is a single, scientific method based on three assumptions: firstly, that reality is in the field and can be discovered; secondly, that, using direct observation, it can be discovered; and thirdly, that material explanations for that which is observed are sufficient. The third word of importance is reliable: something that is true in one case will be just as true anywhere else (Bernard, 1994:4). These three concepts used here will be discussed, as they relate to my research, in this chapter.

As I have mentioned, this was a qualitative study. The idea was to form a picture of Quick Response in a South African apparel textile pipeline – a relatively new, unexplored phenomenon. I combined both descriptive and explanatory elements in my study. Bailey (1987:38) states that researchers use descriptive studies when they want to show what happened. They usually do not have a formal hypothesis that needs to be tested – especially in exploratory studies. Descriptive studies are used when studying a relatively new issue of which a lot is not known. By asking 'what' questions the researcher tries to describe the phenomenon in detail. The descriptive elements of my study focused on Quick Response in South Africa, as new and unexplored.

I also included explanatory elements, which Bailey (1987:38) describes as going beyond mere description and trying to explain a certain situation. A researcher can try to explain by using 'why' and 'how' questions. These questions I employed while studying changes in work organisation, especially

in the textile and clothing industries in South Africa. Using qualitative research methods I attempted to describe Quick Response in a South African apparel textile pipeline by finding out what it is, what its features are, how it is implemented and what its effects are. The methods that I used were interviews and observation.

4.1 The research methods

4.1.1 Interviews

The main method of gathering data in this study was interviews. I employed semi-structured interviews using mostly open-ended questions, but also some closed-ended ones. This is close to what Bailey (1987:190) describes as a focused interview. After the interviewer has studied the phenomenon in question, certain important issues concerning it are identified. So question wording might not be decided on beforehand, but question content is. This structure, which includes certain crucial topics, stops the interview from being worthless and not fulfilling its duty. The open-ended questions provide flexibility and allow for unanticipated responses. It also allows the interviewer to probe further, if need be.

Bailey (1987:189) says that a probe is needed when the respondent provides a vague answer or even if something of interest is said which needs to be explored further. The function of a probe is to provide a minimally acceptable answer or to guide the respondent to a more accurate question. Probes may be written in advance on the interview schedule or used spontaneously during the interview. The flexibility of the open-ended questions and semi-structured interview allows for a long series of probes that might delve deeper than a structured interview with closed questions (Bailey, 1987:191).

I chose semi-structured interviews over standardised and unstructured interviews as the type that would best suite the theme and circumstances. I decided against unstructured interviews (with only a topic and no questions) because I did not feel that I had the necessary experience in conducting these

kinds of interviews. Experience is important when conducting unstructured interviews and not having the benefit of questions or themes. An even more important factor in the decision was my initial lack of knowledge on the subject of my research. This holds especially true for Quick Response, which is still relatively new in South Africa. I did not use a standardised interview because of its inflexibility. This is especially the case when the respondent introduces new issues in an interview. A semi-structured interview allows one to probe such issues.

The research took place over a period of one year, allowing for many interviews. Towards the end of this period, I had acquired enough experience and knowledge of the subject to be able to conduct thorough interviews that were unstructured. These were usually third or fourth interviews, with the same respondents, following upon previous interviews or discussing the current state of affairs in the project.

4.1.2 Observation

The second method that was used in constructing this case study was observation. Bailey (1987:239) argues that observation usually involves visual data collection, such as non-verbal behaviour but can also include data collection via hearing. The two types of observation are participant and non-participant. The former includes regular participation in that which is observed, without other participants being aware that the person is to be a researcher. A non-participant observer does not participate and is known to be a researcher.

The aim behind observation is to study in detail the behaviour and relationships in a setting or institution. Observation can provide answers that other research methods might not be able to do, such as information on unconscious behaviour or behaviour that is not the norm. Observation is usually conducted in a natural setting – that in which those that are observed feel most comfortable. Bailey (1987:243) identifies two types of structures by which observation can be classified: the structure of the environment and the degree of structure employed by the observer. The environment can either be

a natural setting or an artificial one, such as a laboratory. The observation itself can either be structured, where frequencies of behaviours might be counted, or unstructured, where whatever occurs is observed and recorded.

Bernard (1994:136) defines observation as *'getting close to people and making them feel comfortable enough with your presence so that you can observe and record information about their lives'*. Hence, it is easier to talk to people who are being observed about sensitive topics.

The Quick Response project was implemented at a textile mill, a garment manufacturer and a retailer – which together constitute this apparel textile pipeline. In order to study Quick Response in this pipeline, these three companies, their vertical relationships with each other and the horizontal relationships within them needed to be studied. As was discussed previously in this section, most of the data was collected interviewing workers, middle and upper management. I also used non-participant observation. This entailed attending meetings held by the companies involved in the project. Initially the meetings concerned the implementation of Quick Response and later about its progress, success and problems that were encountered. I describe it as non-participant observation as those involved in the project gave me permission to observe the meetings (thus, it was not covert) but I did not participate.

According to Bailey's (1987) classification it was an unstructured field study as it took place in a natural setting and I recorded whatever occurred. This non-participant observation complemented the interviews.

Observing the meetings between representatives of the three sectors of the pipeline gave me insight into the relationships between both the companies and the people working for them. For Quick Response to be successful, effective, open, trustworthy dealings between those who are involved are essential. An interview can be used to ask questions about relationships, but the observation provided first-hand experience. The observation, like the interviews, also took place over a period of one year.

4.2 Advantages and disadvantages of the methods

4.2.1 Interviews

Bailey (1987:174) regards the following as advantages of interview studies: flexibility, non-verbal behaviour, question order, spontaneity and time of interview. The first and the third are connected.

An interview allows the researcher to probe interesting or relevant answers, to repeat questions when they have been misunderstood, to change the order of questions in order to increase the effectiveness, and leave out questions that might have been addressed already or that are not applicable. Another advantage is spontaneity. Contrary to some other methods the researcher can record spontaneous answers, which are often more informative and less normative than those answers that one has contemplated. Coupled with this, is that the interviewer's presence allows him or her to observe non-verbal behaviour. This can help assess the validity of answers. This holds especially true in a research project such as this one where sensitivity is an issue. Because relationships in apparel textile pipelines are traditionally characterised by tension and mistrust, respondents might answer what they assume the researcher wants to hear. Interviews have allowed for a method to assess validity and observe spontaneous answers.

Another advantage is the time of interview. This has been the case in this study as this project depends on decisions and times. A respondent might have a certain view based on a decision taken at a certain time or not taken until after the interview. This method allows for the exact time and date of the study to be identified. Important events that have occurred during the study can be recorded and answers before and after it, can be compared.

According to Bailey (1987:175) the disadvantages of interviews are cost, time, interview bias, no opportunity to consult records, inconvenience, less anonymity and lack of accessibility to respondents. Interview studies,

compared to other research methods can be expensive. Interview schedules can be costly to construct and employing and training interviewers can also be costly. This disadvantage was not really applicable in this study as I did all the interviews myself and had no one else to train or to pay and no extra schedules to reproduce. The travel expenses were not all that harsh as the apparel textile pipeline's firms were located in and around Cape Town.

Three disadvantages are connected: time, inconvenience and lack of accessibility to respondents. Interviews usually take time, that of the interviewer and the respondent. This study was done in companies where the respondents were working. It means that interviews can often be inconvenient to respondents even if they have been scheduled weeks in advance, as new problems take priority over interviews. These problems were overcome because of the one-year period of the research. Often respondents could not keep to pre-arranged meetings, but the interviewer was able to return because of the length of the study. This factor also negated the fact that interviews often do not allow respondents to consult their records. As I returned for follow-up interviews, records could be consulted in that time. Interviews offer less anonymity than other methods. The only way that this can really be overcome is when the respondents trust the interviewer. This disadvantage played an important role in this study. The information that I received was often very sensitive and it was crucial that I not leak it to competitors of the firms or even to the other firms in the pipeline. For this reason trust was initially not easy to come by.

Together with my supervisor and the firms involved it was decided that there would be three types of information: that which can be published, that which must be masked before publication using indices and that, which cannot be published. The firms would also get a chance to read this thesis before publication, allowing them to identify information that might be too sensitive. These measures were the only way I would be allowed access to the companies.

Regarding the last disadvantage, interview bias, it is probably the most entrenched in interview studies. Interviewers can misunderstand answers or even understand them using their own bias and respondents' answers can be affected by his or her reaction to the interviewer. The only thing that can be done here is, as Bernard (1994) noted earlier, to strive for objectivity and attempt to win the trust of the respondents, thus minimising their reaction to the interviewer.

4.2.2 Observation

Bailey (1987:240) identifies non-verbal behaviour and natural environment as two advantages of this method. Observation is very effective in studying non-verbal behaviour. In this study, certain sensitive questions concerning the relationships between the firms in the pipeline might not have been answered candidly in interviews. However, by observing meetings of the pipeline it is possible to get an inside look at relationships – not just non-verbal behaviour, but also conversations and dealings between representatives of the firms. This links with the second advantage that the behaviour takes place in its natural environment where there are usually meetings between the firms. This might assist in less reactive behaviour or answers than with interviews.

Bailey (1987:241) regards the following as disadvantages of observation: small sample size, gaining entry and lack of anonymity. Observational studies tend to use a smaller sample size and the data is difficult to quantify. However, in this study the aim was not to generalise to a larger population such as all South African apparel textile pipelines. It was descriptive and exploratory study of one case of Quick Response. The other two disadvantages, gaining entry and lack of anonymity, were overcome as discussed in the previous section.

It has to be remembered that the firms that were studied are in a very competitive environment. Suddenly they were asked to allow a researcher to study their workings and relationships with other companies. This was done, using the preconditions discussed earlier. It allowed the firms some control of

the information that would be disseminated. These observations took place over a period of one year. This fact neutralised the reactivity of an observer being present in meetings. Initially it might have been difficult having someone else present at meetings but as firms started to trust the situation and observer, the meetings normalised. Or as Bailey (1987:244) says, a natural setting was not changed into an unnatural one.

4.3 Validity, reliability and ethics

Validity is about asking whether the research method really measures that which the researcher assumes it does. Bailey (1987:68) says that in order to determine the validity of a method one needs to know the definition of the concept being measured. Face validity is assessed by the evaluator studying that which is to be measured and determining whether the method arrives at the concept adequately. Criterion validity *'entails use of a second measure of the concept as a criterion by which the validity of the new measure may be checked'* (Bailey, 1987:68).

The second measure in the case of my research was often the interviewees themselves. I interviewed most of them a few times and so got the chance to speak to them about some of my preliminary conclusions. The interviewees got a chance to confirm or not the validity of the methods used. I could also determine the validity of my methods as I used two methods to study the same project. By observing meetings between the respondents I was able to establish whether my other research method, interviewing, was valid and vice versa. When a response or attitude on one measuring instrument correlates with the response or attitude on another measuring instrument, it is valid. Bailey (1987:70) states that *' a measure is reliable if the measurement does not change when the concept being measured remains constant in value'* – reliability, in other words, measures consistency. It is crucial for research that the methods employed are reliable and valid.

Bernard (1994:38) states that validity is the most important issue in research. It refers to the accuracy and trustworthiness of the methods used, the data

gathered and the conclusions made. The validity of data depends on the validity of the methods. If data were gathered using research methods that are not valid then the data would automatically not be valid. Valid data does not spawn valid conclusions from that data automatically. It is still necessary to make valid conclusions, as certain findings from data that is valid can be invalid. Valid data and valid findings can result in explanations that are not necessarily valid. It is still important to make valid explanations when using valid data and findings. Bernard (1994:39) defines reliability of a research method as it being able to give the same result when measuring something more than once.

Discussing the validity and reliability of interview studies, Bailey (1987:207) notes that there are a few ways that error can ruin an interview. Respondents are usually more accurate on recent events than on events that happened long ago. This results in errors when questions deal with issues that fit into the latter category. Errors also occur when a respondent does not know the answer and is ashamed, and when respondents answer in a socially desirable, yet inaccurate, way. However, the relative control evident in an interview situation strengthens the quality of the data gathered.

Another factor that impacts on the validity and reliability of interviews is that records cannot be consulted if the respondent cannot remember. But, as I have mentioned before, the fact that the study was longitudinal neutralised this as respondents had 'another chance' in follow-up interviews. Regarding possible errors when answering took place in socially desirable ways, the fact that observation was used assisted in creating validity. Socially desirable answers are most prevalent when sensitive questions are asked. By using observation to complement interviews some errors were eliminated as two instruments were used to study one issue.

Bernard (1994:140) argues that observation increases validity, as it is then possible to collect different kinds of data. My observation of meetings allowed me to listen to what the representatives of the firms in the pipeline said and to observe their non-verbal behaviour at the same time. I could then weigh up

the results. When observing, one of the main problems is that of reactivity. Bailey (1987:20) says that reactivity can affect the data. It could be that when I observed the respondents in their meetings they acted one way and when I was not observing the meetings they acted in another. Bernard (1994:141) says that *'lower reactivity means higher validity of data'*. The fact that this study (and the observation) took place over a year reduced the problem of reactivity. The firms and their employees got used to the observer in their ranks and started acting normally, if they had not previously. Observation also allowed me to construct new questions based on what I had recorded in meetings. This might not have happened had I not observed and crucial issues might have been neglected.

Bailey (1987:265) adds to these arguments: *'Observation of an occurrence has greater face validity than a second hand account gathered...through interviewing...'* This was true in my research when interviewing people about relationships between companies and actually observing the relationships first hand. The observation complemented the data gathered by interviews.

Regarding the ethics in this study, it would be valuable to use the view of Preston-Whyte (1990:246) who says that researchers who enter the fields of development or action research are usually confronted by more than the average amount of problematic ethical issues. As I have mentioned already, it was a problem gaining access to this pipeline. It was only granted once certain undertakings regarding confidentiality were given. Data gathered could either be published as is, published with indices to mask it or not published at all in the case of sensitive information. The main concern was that company secrets might become public domain, allowing the firms' competitors to use the information. I had gained wide access to the companies, their meetings, documents and personnel. The companies wanted to ensure that their positions in their respective industries would not be negatively influenced. This problem was never of great concern to myself as I did not have contact with their competitors and I was confident of the non-sensitivity of that which I would publish. Of greater concern was the information flow between companies.

Preston-Whyte (1990:242) says that researchers can observe occurrences or hear discussions that those concerned would not want to reveal to others. Researchers then have to consider what can be disseminated, what must remain confidential and whether to use certain information gained while conducting a study. It is necessary to decide whether to preserve the confidentiality of research material and the anonymity of individuals and their organisation, or not (Preston-Whyte, 1990:242).

In the previous chapter I discussed the not-so-healthy relationships that have existed and exist between textile mills and garment manufacturers and retailers. This complicated the research process enormously in this study. The companies would divulge information to me about the other participants in the project, which I would be able to use in my research to strengthen it. However, I had to decide whether the information is public domain or not. Would I not damage relationships even further if I let a company know what its supplier or customer thinks of it? Am I able to use certain data to construct new questions if it might sour relationships? Surely, using this sensitive data would enable me to build a better case study, but would it not do harm as well? On the other hand, if Quick Response is to be successful, companies have to be open and honest with each other. During this entire study I had to tread a fine line between using data gathered to build a good case study and not using data for ethical reasons.

Bailey (1987:407) sums it up well: *'We have a scientific interest in demonstrating the way harmful effects on people are caused, but an ethical interest in avoiding such harm.'* Somehow both goals need to be served, but we must probably be guided by the fact that people should not be harmed by research.

The last issue of note regarding this study concerns objectivity. Bernard (1994:152) regards objectivity as a skill that can be improved if one works at it. An objective measurement is one where no error is made based on previous experiences, memory and opinions. It is then quite obvious that no

one can ever be objective. By being aware of our values and experiences we might strive to transcend it and to achieve objectivity or as Bernard (1994:152) describes it, accurate knowledge. Bernard (1994:153) also argues that objectivity does not mean value neutrality. It means presenting irrefutable research, not neutral research.

If one had to evaluate the research my partner and I did it would not adhere to the traditional understanding of objectivity where one describes a phenomenon without interfering with the objects of the research. During this research process we interfered so much that it felt as if we were driving the project at times. This 'interference' took the form of questions that we asked or remarks that we made regarding the Quick Response project. These questions and remarks took place during interviews or when checking findings with the respondents (those driving the project). The questions were derived from our theoretical research and from studying the project. They triggered responses, more questions and actions from the respondents. Hence, we influenced the project as the respondents behaved differently to what they had before we asked the questions.

The respondents had experience in and knowledge of the clothing and textile industries but did not have the theoretical knowledge of Quick Response that we had built up. Our knowledge often provided the basis for some change or improvement in the project.

We were able to 'interfere' as we did because of the length of our research. The research continued for more than a year and this allowed us to build a relationship with the respondents from the companies. Thus, they were able to ask us questions on Quick Response based on our theoretical knowledge. The answers that they received often influenced the way they operated in the companies. Another reason this aspect of our research was unique to this project was because Quick Response is a new phenomenon in South Africa. If it had been a project that had been run before, the respondents would have had experience of it and would not have needed any input from us. However, most of the respondents did not have any previous Quick Response

experience or knowledge and thus they accepted any help we could give them.

It was quite obvious that we were not being neutral or objective. We were not just researching the project; we also got involved in it. I believe that the involvement was positive as it meant an improvement in the way Quick Response was run and its chances of success. I also believe that it did not affect our research and that we were still able to present an irrefutable, accurate account of the project. This has to do with the nature of the research. If many Quick Response projects were being compared, then surely helping one, as we did, at the expense of others, would have affected our research results. But this was an exploratory study and if our knowledge and influence improved this project, it could benefit the companies involved, help save the industries and create jobs.

Chapter 5 Data and Analysis

'Quick Response is not like a fish and chips store.' – The retailer's planning manager.

In this chapter I present the data gathered during the Quick Response project as well as an analysis of the data. I use the data to clarify and highlight points and to support my analysis. Firstly, I discuss what the respondents believe Quick Response to be and compare this to the theory. Secondly, I analyse the impact of this Quick Response project on each company in this apparel textile pipeline in the Western Cape and what the outcome was. Thirdly, I look at the shortcomings of the project.

Finally, I present a profile of each company: the textile mill, the garment manufacturer and the retailer. These profiles highlight the differences between the companies before the implementation of Quick Response and thereafter. Throughout the chapter I compare the data with the Quick Response theory.

One can measure Quick Response using different indicators. In this thesis, I use lead time, overstock and stock-outs. Lead time is the time from when an order is placed until it is delivered. Overstock is when the stock bought by a retailer exceeds the demand for it. This could lead to a markdown. Stock-outs occur when the stock bought by a retailer is less than the demand for it. This leads to a loss of sales and possibly the goodwill of customers.

The data in this chapter was gathered by interviewing people involved in the project and by observing meetings. I interviewed the retailer's planning manager, planner, technologist, distributor and buyer, the manufacturer's managing director, sales, human resource, planning, and production managers and industrial engineer, the mill's managing director, industrial engineer, liaison officer and planner and the CEO of the mill and the manufacturer. At the manufacturer, I also interviewed three SACTWU shopstewards.

The interviews took place over the period of a year and different interview schedules were used. Enclosed as appendices to this thesis are the interview schedules used at different times in the project: the planning (appendix a), the implementation (appendix b) and the results (appendix c). These three were used for the interviews with managers. The fourth schedule (appendix d) was used for the interviews with shopstewards at the garment manufacturer. The interview schedules were all semi-structured with probes to elicit more information.

5.1 What is Quick Response?

For the retailer's planner Quick Response means 'ensuring that the right stock (colour and size) is at the right place at the right time. It means getting the stock down to an acceptable level to get maximum profit. It is really sales-based replenishment. For the retailer the name Quick Response might be misleading. It means the replenishment of a model stock. The model stock determines how many of a specific size and colour must be on a shelf. With both Quick Response and stock replenishment the question is how quick you can get the pipeline to replace sales while only holding sufficient stock. Holding too much stock is expensive. This applies to the suppliers as well. The objectives of the project are lower stocks, quicker stock-runs and better sell-offs. They are all interrelated.'

The manufacturer's sales manager sees 'Quick Response as a hands-on approach to handling an order because everyone is focussed on it. It is actually model stock replenishment. If stock can be replenished in store it would mean more units for all in the pipeline. It is an advanced step for us. Quick Response means we will be satisfying the customer by having the goods in the right place at the right time in the right colour and size. We could not measure it before but now that we have stock we will see additional sales and satisfied customers.'

'Quick Response is the ability to respond quickest to customers' orders. We see it as a replenishing of stock programme,' adds the mill's managing director.

These three quotes compare well with Hunter's (1990:1) precondition for success for Quick Response: '...an integration of the fibre, textile, clothing and retail sectors in the pipeline into one consumer responsive whole that relies on the pull instead of push method.' The manufacturer's sales manager speaks about everyone being focused on replacing the stock (an integration of the pipeline into a consumer responsive whole). The retailer's planner and the mill's managing director emphasises the need to respond the customers' orders, replace sales and stick to the model stock instead of blindly placing stock on the shelves (pull instead of push).

From the previous experience of the CEO of the mill and manufacturer Quick Response means 'always having what the customer wants but theoretically having only one and when it is sold to replace it. This is done without theoretically having any stock. What do we, as suppliers, have to do to ensure that the product is available at the retailer? If the product is not in the retailer's shop when the customer wants it, the retailer does not only lose the sale but also the goodwill of the customer. How can one do it as close as possible to a stockless environment? It has to be just-in-time, not just-run-out. On the other hand, we cannot have too much stock in the warehouse because that is not Quick Response. We should rather have one each of a hundred different products than one hundred of the same product. There is a better chance of a sale being made then.'

Hunter (1990:1) also discusses reducing the safety stocks held in the pipeline through better communication and improved trust. At the beginning of the project the manufacturer's sales manager predicted that this project would not mean an increase in stock levels. This, however, was not the case as I will discuss later in the chapter but still the manufacturer saw that as part of Quick Response.

The pipeline can only replace the model stock and the sold items in time if it cuts the lead time. The mill's industrial engineer identifies one of the ways of doing this as holding a certain amount of stock. 'It is easier as the administration work is cut out. Instead of ten days of administration work we now only have one day's worth to do.'

When cutting lead times, Knorr and Newman (1992:61) argue that just-in-time delivery is a crucial factor. However, the mill's engineer does not agree. 'It does not matter if there is not any just-in-time as long as the lead times are down and the customers satisfied. It needs to be satisfactory to the retailer.' The difference in opinion here can be attributed to the engineer's view that 'Quick Response's definition depends on the product involved and the process'.

It seems from different respondents' and authors' views that an important question when setting up Quick Response is to decide how much stock to hold in the pipeline. Holding some stock can help cut the lead time but holding too much stock defeats the purpose of Quick Response – a decrease in amplification and volatility – and increases warehouse costs. I will return to this issue later.

Quick Response does not only entail moving the product through the pipeline quicker, but information as well. The suppliers can only know which sales have taken place and consequently what products to produce if they receive the right information from the retailer. The mill's managing director sees the information the retailer provides on the sizes, colours and ratios as the key to success: 'Everything is based on quality of information.' Kurt Salmon Associates (date unknown:2) concur when describing Quick Response as 'a partnership strategy for retailers, manufacturers and mills to achieve faster movement of the right information and products through the merchandising and production pipelines'.

'This information is generated using point of sales technology,' says the mill's engineer. 'Quick Response is a system whereby we can replenish the

retailer's stock as soon as possible based on its point of sales data. It allows the retailer to see daily where to replenish and then send an order to the suppliers.' Hunter (1990) also stresses this point: 'Quick Response is dependent on an effective communication system where information can be quickly transferred from the retail point-of-sale to the other sectors.'

The CEO regards trust as integral to Quick Response or 'the project falls apart'. This is in line with two authors: 'Quick Response demands honest and open communication between the sectors, as well as mutual trust' (Hunter, 1990:1) and 'trust-based relationships in the pipeline is a crucial factor ' (Knorr and Newman, 1992:61).

5.2 Outcomes

The adoption of Quick Response in this pipeline impacted on each company or group in the pipeline. The next section looks at the outcomes for the textile mill, the garment manufacturer, both the mill and the manufacturer, the retailer and all three.

5.2.1 Outcome for the textile mill

5.2.1.1 Pilot project

The mill has used this Quick Response project as a pilot to use more technology in its own production process and in communicating with suppliers and customers.

5.2.2 Outcomes for the garment manufacturer

The managing director, sales and planning managers of the manufacturer describe their company as being flexible by accident, not by design. They claim 'the X-tuck shirt drove us to be flexible while falling tariffs and competition contributed to it.'

5.2.2.1 Closer to the retailer

Contrary to some of the retailer's suppliers, this one is not a 'hundred-percenter' – supplying only to this retailer. The retailer's commitment to those suppliers is very high. This manufacturer could benefit from Quick Response if it moves closer to the retailer and gets the same commitment from it.

The manufacturer's planning manager believes 'we will only move closer if the customer get what it wants'. So it is important for the manufacturer to be efficient and ensure a successful project. This will mean more contracts in the future. It might even become a 'hundred-percenter'.

'Moving closer' does not only mean an improved relationship, it also entails working together more efficiently. This is illustrated in the following quote from the manufacturer's planning manager: 'The retailer has to feed through its requirements and be close to us. This will allow us to order accurately.'

Even when the retailer's information is not accurate the manufacturer is still prepared to accommodate it. This happens because, as the manufacturer's sales manager says, 'we want to be seen as flexible because the client does not always know exactly what colours and sizes it wants. It must be able to change.' This might result in more work for the manufacturer. The motivation behind doing this lies in a quote by the manufacturer's production manager: 'We accommodate customers because that means an increase in turnover.'

5.2.2.2 True value of the X-tuck

According to the manufacturer's sales manager, one of the benefits of Quick Response is that 'we can measure the true value of X-tuck in the marketplace'. Previously the manufacturer considered dropping it like it did the basic T-shirt but, thanks to Quick Response, this shirt has now secured a new base at the manufacturer.

5.2.2.3 Red-flagging

The manufacturer's planning manager admits to red-flagging the orders for this project: 'Quick Response is planned into the capacity of the factory but it enjoys top priority and can be red-flagged.'

Red-flagging entails marking orders and allowing them to jump queues. The manufacturer believes this project cannot be successful without red-flagging the Quick Response orders. This way it ensures the Quick Response orders are not late and the retailer satisfied. Yet this could result in its other orders being late.

5.2.2.4 A low profit margin

The garment manufacturer's profit margin on the X-tuck shirt is low. It might sometimes even lose on the shirt. As a result it is very sensitive about anything that might increase its costs. Its sales manager states that the import price is R5 or R6 more than its price. 'Ideally, this is not the price that we want to sell the shirt for but we know that there are long-term benefits.'

The manufacturer needs to identify ways to cut costs to ensure it does not lose with the X-tuck shirt. One avenue identified by its CEO is packaging which can cost R88 000 per month. By finding an economic pack the manufacturer can cut its packaging costs. This was being investigated during the Quick Response project.

5.2.2.5 Expensive teal and indigo

One thing that affects the manufacturer's profit margin is colour. Teal and indigo are more expensive than other colours. So if more teal and indigo shirts are sold than others the manufacturer does not cover its costs. It makes its profits when white and the other colours sell well. Its managing director suggests the original price be rectified if teal and indigo sell better than the others. One suggestion is a rating structure in case one colour sells better than the others.

5.2.3 Outcomes for both the mill and the manufacturer

5.2.3.1 Implement Quick Response elsewhere

This project will benefit the two suppliers by allowing them to utilise the skills and mindset acquired in this project to win more customers and use in other pipelines. This is evidenced by the fact that the manufacturer is already talking to other retailers about possible Quick Response programmes as mentioned by the manufacturer's planning manager. The mill's engineer believes that when other potential customers get to know about the project it will be good marketing for the mill.

The project also gives these two suppliers a foot in the door when the retailer starts model stock replenishment due to its similarities with Quick Response. The mill's engineer is adamant that 'if the mill can meet the retailer's demand, it means more business because the retailer will have more confidence in us'.

5.2.3.2 Using local proximity

The two suppliers have been affected by decreased tariffs and the subsequent increase in international competition. According to the manufacturer's managing director, sales and planning managers it lost the basic T-shirt because of this. Its average order size has gone down from what it was in the past.

An important benefit for the mill and the manufacturer is learning how to use their local proximity as an advantage over cheaper imports. Imported products might be cheaper but the local firms are physically closer to the retailers. By using their local proximity the suppliers can ensure that service and shortened lead times become more important than price for customers. Shorter lead times provide the retailer with certainty that can neutralise the effect of cheaper imports at a much longer lead time.

This is reflected in the view of the mill's managing director at the beginning of the project: 'It is important for us to find out what it is worth for a customer to receive information and deliveries on time. This could differentiate us from other suppliers. For us, Quick Response is a way of tying a retailer to us by delivering on time.' As the mill's engineer say: 'We cannot compete on price, only on lead times.'

There is also a realisation of this advantage at the garment manufacturer. Its managing director, sales and planning managers identify quicker service as the only thing that it can offer. 'Importing might be cheaper, but we have the edge on lead times.'

According to Hunter (1990), Quick Response was established in the second half of the 1980s in the United States because of the need of clothing and textile firms to become more competitive. Quick Response was implemented when the apparel industry in the United States lost sales to high quality, low cost imports. The only advantage that these firms had over imports were local proximity – they were geographically closer to their customers, which could help them get close in business as well. Quick Response was developed to make use of this.

This corresponds with Piore and Sabel's (1984:261) use of 'regional conglomeration', which they regard as part of flexible specialisation. It is a specialised industrial district consisting of a few small firms who co-operate. Together they secure benefits such as customers, financial assistance and raw materials. It assists them against competitors from outside their region or country.

The mill and the manufacturer were already in a 'regional conglomeration'. Says the manufacturer's planning manager: 'Because we are physically next to each other and part of the same company we can offer special things to international customers.'

Both suppliers believe that service and quality are their strong points. They admit that they might be more expensive than others. According to the manufacturer's planning manager, 'price, quality and reliability are important. We are not the cheapest but we offer good quality and reliability.' Its managing director, sales and planning managers believe 'retailers choose us because of our service and quality. We never lower our standards on quality, our service is professional and we deliver on time.'

The mill's liaison claims that it is one of the best quality mills in the country. It is perceived to be expensive but its quality and deliveries are good. Thus it concentrates on the latter two. Its engineer agrees: 'Customers choose us because of our good quality. Doing business with large retailers also enhances our reputation.'

However, despite all the talk about the importance of quality and reliability, the manufacturer's planning manager, while discussing its suppliers, says 'We import fabric when local prices are not competitive. At the end of the day price is the most important thing.' If this is the case, what chance does these two 'expensive' suppliers have of surviving? It seems that the suppliers want one thing from the retailer but this does not apply to its own suppliers. If this retailer had the same attitude, the textile and clothing industries in South Africa would have been even worse off.

5.2.4 Outcomes for the retailer

5.2.4.1 The retailer's responsibilities

Being involved with this Quick Response project for the retailer means giving the delivery instruction (DI) on the right date and calculating the model stock correctly. As the mill's managing director says 'The key to success is the information the retailer gives us on the sizes, colours and ratios. Everything is based on quality of information.' Accurate information will allow the manufacturer to order accurately and contribute to a successful project.

However, this will not be easy. The retailer's planner describes current orders as a thumb-suck as the company does not know for sure whether the order will sell. 'We need to order more responsibly. We also need to secure the kimble tickets with the dates of manufacture and the SKUs on them.' The planning manager adds: 'For Quick Response to run smoothly we have to ensure that we get the model stock right and that we insert data correctly to ensure data integrity.'

The manufacturer's planning manager is sceptical on whether the retailer will be able to do the above. 'For all of our production to be on Quick Response, the forecasting needs to be very good. We need the exact figures and colours from the customer. In South Africa this will not happen soon because the customers are not specific enough. They change their minds too often.'

This is in line with Schonberger's (1996:22) suggestion that the entire pipeline must produce according to sales at the retailer and react to trends in sales. It is different to production before Quick Response, which was based on guesstimates.

5.2.4.2 The model stock

This project has provided the retailer with the chance to, if necessary, DI every week as opposed to once a month. It must order at least one thousand units by the end of the third week. However, with good sales it can fill up its model stock – its optimal stock level as determined at the beginning of the season – much quicker.

The retailer's planner describes the project as sales-based replenishment. 'At the retailer the name Quick Response might be misleading. For us Quick Response means the replenishment of a model stock. The model stock determines how many of a specific size and colour must be on a shelf.' The presence of a minimum order (one thousand every three weeks) could cause overstocking if sales are not good and the retailer does not need as much.

The model stock is constructed by projecting what each store should be selling at the beginning of the year. Some colours sell year-round while others are seasonal. The retailer can change the colours according to the season. The model stock at each store will be different because of their different sizes. The retailer cannot wait for smaller stores' stocks to deplete while larger ones are standing empty and not selling. The retailer's planner says that if it discovers during replenishment that sales have increased or decreased it can instruct the suppliers to produce accordingly.

5.2.4.3 A forerunner to model stock replenishment

For the retailer Quick Response acts as a practice run for model stock replenishment, which will replace Quick Response. It will be much bigger, involving more basic goods from other departments.

Model stock replenishment involves core products that can be ordered daily but at least eight times a season. Suppliers have to be on the same information systems as the customers and have extra stock available.

Model stock replenishment will use a distribution unit to transport goods. It allows for more efficiency, as different items can be stored in it. Suppliers will send the products to a central warehouse, instead of different stores, where it will be put in the distribution unit.

The planner adds 'During Quick Response orders occur once a week so in between orders stock levels fall and is only at the maximum on the first day of every order. Model stock replenishment stock is theoretically always at the maximum because of the daily orders.'

The retailer's planner continues: 'In the middle of 1999 we will implement model stock replenishment. It will take the place of Quick Response. These two suppliers would be able to participate in those projects because they now have the skills.'

5.2.4.4 New technology

Contrary to the previous Quick Response project in South Africa, this project has up-to-date information flow systems and technology available. This gives it a better chance of success as suggested by van der Riet (1989:A3-3) and Knorr and Newman (1992:61). They regard it as a requirement for successful Quick Response.

The retailer has learnt how to use its point-of-sales information systems more effectively to provide information to its suppliers, planners and distributors. The mill's engineer explains the benefits of technology: 'The retailer's point-of-sales information allows us to replenish the retailer's stock as soon as possible. Using it, the retailer can see daily where to replenish and then send an order to the suppliers.'

5.2.4.5 Pull instead of push

This pipeline strives to respond to constant change. This confirms Quick Response's status as a type of flexible specialisation as Piore and Sabel (1984:17) describe it. The companies aim to accommodate change in sales by relying on the pull instead of the push method. As the retailer's distributor says 'The X-tuck should not be governed by intake but by demand'. The pipeline's ability to respond quicker is brought about by cutting lead times and eliminating bottlenecks, as noted by van der Riet (1989:A3).

The companies' reliance on the pull method confirms that this pipeline is moving away from supply-driven Fordism to demand-driven post-Fordism, as Jessop (1994:259) and Bessant (1991:267) suggest. They use supply-side innovation, in this case Quick Response, to respond to the demand for their product. They rely on this demand to indicate what and how much to produce. In contrast to Fordist production the companies do not produce in case there is demand. In a post-Fordist environment competition depends on responsiveness to customers, demand and changing markets.

For Bessant (1991:36) the ability of companies to respond to changing markets and increased competition will help ensure their own survival and that of their industries. This happens because the retailer responds quicker to sales trends, increases the variety of stock it has available in the stores and ensures there are no stockouts. Thus the shirts that the customers want are available in the stores. If it is not, suggests the CEO, 'the retailer does not only lose the sale but also the goodwill of the customer'.

5.2.5 Outcomes for all three companies

5.2.5.1 Another product

Due to the increased sales of the X-tuck shirt and the success of the project the pipeline considered including the single jersey – a product that it also manufactures – in the Quick Response project. The mill's engineer predicted that additional products would be basic products as they sell quicker. However, he warns that 'the expectation could arise that "we can do Quick Response with one product so we can do it with others too" and this might not be the case. Quick Response is product dependent.'

The manufacturer's sales and planning managers feel underwear will be easy because its strike rate is good and it is simpler to produce than the X-tuck. The retailer's planner believes Quick Response can only be extended to products with consistent sales. Iyer and Bergen (1997:563) warn against including high fashion items in Quick Response as it may result in large losses, especially for the manufacturers.

Including another product would mean even greater co-operation between the companies and a chance to apply lessons learnt in this project.

5.2.5.2 Increased stockholding

Ideally Quick Response should be a stockless environment (van der Riet, 1989). The CEO agrees that it is done 'as close as possible to a stockless

environment. We cannot have too much stock in the warehouse – that is not Quick Response. We should rather have one each of a hundred different products than one hundred of the same product. We'll have a better chance of a sale being made then.'

However, for the mill Quick Response has meant an increase in stock in greige and yarn and for the manufacturer in fabric form and collars. This has been done to saturate the market and ensure on-time deliveries. The retailer's planner explains: 'With Quick Response it is how quick the pipeline can replace sales while only holding sufficient stock. Holding too much is expensive – for the suppliers also. Our objectives are lower stocks, quicker stock-runs and better sell-offs.'

Initially the stock in the pipeline consisted of 6000 units: 2000 per colour. The distribution was 2000 in finished products, 2000 coloured up, waiting to be cut and 2000 in greige at the mill. The pipeline intended to reduce this to 1000 per section.

The mill's engineer explains: 'Stock is kept so we can just dye it up and send it. It allows us to replenish the stock in the retailers' store much quicker and to cut our lead time.' The suppliers keep the product at its lowest form of production until the last minute – knitted greige for the mill. The CEO clarifies: 'It gives us flexibility as we can dye it any colour in an instant. We cannot hold it in a lower form because of the inflexibility of the machinery. In a six-week cycle we can have greige knitted and in the seventh week we can dye it once we know what the SKUs are. We have to make sure that, when the retailer indicates the colours, we are ready.'

During the initial stages of the project the manufacturer's managing director, sales and planning managers believed Quick Response was doing what it is supposed to. 'The retailer saw the project as a way to reduce its stock levels and this is succeeding. For us, part of Quick Response is holding stock. The cost of this is not a major thing. Additional sales mean additional business for us.'

However, later on because the retailer wanted to hold less stock it was perceived as benefiting at the expense of its suppliers. The suppliers felt the retailer was benefiting due to them carrying most of the stock. But the retailer's planning manager claims the suppliers agreed beforehand to hold stock at strategic points.

It seems the suppliers initially agreed to holding stock because they did not realise the cost of it and did not want to jeopardise the relationship with the retailer.

The above does not even take into account the units that would be added to the pipeline once the retailer increases the number of stores and colours. This will increase the suppliers' costs even more.

Holding stock negates a benefit of Quick Response: the reduction of the effects of amplification and volatility, especially for the mill (Hopper in Maree, 1995:111).

Another problem with carrying stock in the pipeline, according to the mill's engineer, is that the pipeline cannot use just-in-time with Quick Response.

Not everyone is convinced that Quick Response means less inventory. Hotchkiss (1995:1) believes the inventory may be redistributed in the pipeline to meet the retailer's requirements to satisfy the demand for small orders. This view seems to be in line with the aim of this particular project: to replenish the model stock even if it means holding stock in the pipeline and not benefiting from the reduction of amplification and volatility. The stock serves as cover against late deliveries or poor quality. However, the stock kept contributes to the length of the pipeline (Hunter, 1990:19) that caused the problems in the first place.

This discussion confirms that Quick Response – not necessarily this project – can be described as flexible specialisation, as flexible specialisation uses

inventory management to reduce costs (Rainnie, 1991:53). Thirty percent of production costs go to warehousing, inventory, carrying and monitoring stocks. Quick Response is a move away from Fordism, which does not pay attention to these aspects (Walker, 1989:65).

5.2.5.3 Ownership of the stock

Holding stock in the pipeline has resulted in questions about ownership: Does the retailer or the suppliers – who hold the stock – own the stock left in the pipeline at the end of the cycle, taking into account that the shirts might have aged and the retailer might not need it? The manufacturer's managing director believes the retailer must honour what is left at the end of the season, especially if its information is incorrect. The mill's planner and liaison call for a contract with the retailer on this issue.

The retailer's planning manager and planner point out that the suppliers agreed to hold stock and believe the retailer is only responsible for the finished goods. They commit themselves to co-operate with the suppliers on the work-in-progress stock in the pipeline.

Because the pipeline did not decide on this beforehand confusion exists as to who owns the stock left in the pipeline at the end of the season. If ownership had been sorted out earlier the pipeline could have included it with Iyer and Bergen's (1997) suggestions on making Quick Response Pareto improving.

5.2.5.4 Increased orders

Another outcome for the three companies is increased orders. The retailer gets a new batch every three weeks after which it replenishes the stock of the stores involved in the project. The retailer's planning manager, planner and technologist claim they underestimated the potential of this item. 'Last week we were forced to send all the units to our six Quick Response stores because of the good sales. We might suggest to the suppliers that we increase the units from 2000 to 3000 per colour.'

Initially the project consisted of 1000 shirts per colour, three colours and six stores. It increased to 2000 per colour, four colours and nineteen stores. The retailer's planner believes it could increase further if the manufacturer could make more units.

5.2.5.5 Increased sales

One of the benefits of Quick Response, according to Hunter (1990:3), is increased sales volume. The textile mill has benefited from the increased sales at the retailer as its turnover has increased. Still, the mill's managing director feels 'Quick Response will not benefit us but will give us increased turnover by delivering the best product at the best time to our customers. The turnover must increase by more than 10 percent otherwise it could be attributed to seasonal or design factors.'

The mill's planner and its liaison are also sceptical about the benefits of Quick Response: 'For us there might be some cost saving because of the turnaround but only if we stick to standard shades and dyes. We do not really see huge benefits with the project, as its order is only 1000m per colour compared to 3000m for others. We are doing this more as a service to the retailer. It might see us in a better light and give us more business. We might enter into other Quick Response projects because of the partnerships, not the cost. We doubt whether there are any positives from a manufacturing point of view.'

In the case of this pipeline, increased turnover is offset in part by increased stock holding in greige and yarn. This is part of the stock that the mill and manufacturer keeps in the pipeline and replaces after every order.

As with the mill, increased sales have benefited the garment manufacturer. (Yet it also holds more stock, which it replenishes after it receives a DI from the retailer.) Contrary to the mill's managing director, the manufacturer's planning manager believes that increased turnover and garments being

replenished quicker will mean spin-offs such as increased orders, increased sales and the creation of job opportunities. Part of why the garments are being replaced quicker is because the manufacturer and retailers have re-evaluated what the market wants in the last five or ten years. 'We are moving closer to the people in the street, trying to find out what their needs are,' continues the planning manager. This has created an environment conducive to Quick Response.

The manufacturer's sales and planning managers attribute the increase in sales to the availability of the stock in stores: 'We can now saturate the market and increase the profitability.' They are even talking about doing 50 percent more shirts than at the start of the project. On the production side increased sales and a higher turnover means more work and also, according to its production manager, gives the manufacturer more influence with the retailer.

From May to July 1997 an increase in the frequency of orders and the replenishment of the fastest selling SKUs resulted in a sales increase of 45 percent on the previous quarter. Overall sales of the X-tuck are up but sales in the Quick Response stores have climbed steeply. The retailer's distributor attributes this in part to Quick Response. The planner says that the good stockholding this winter compared to previous winters with little stock meant that there have been good sales.

This happened when the Quick Response project was only in a small, manageable number of stores. According to the planner, these stores are the biggest sellers so if things go wrong the large sales will indicate it immediately. By the end of summer 1997 the retailer wanted Quick Response in all its stores.

Initially the retailer did not have high expectations of the project and so planned down. Quick Response was only running in six stores. Once up and running Quick Response allowed it to get stock in the stores quicker. 'Our relationship stock-to-sale is exceeding our expectations. We are selling 20

percent of our stock per week. Sales have increased because of quality, value and availability. The product is better than any other in the market is, the value is great – you are getting a Porsche for R45 – and it is available,' remarks the planner.

Although the shirt was selling well the retailer does not have any previous Quick Response sales to compare it with. The planner argues 'it is difficult to really gauge its success and know the exact reason for the increased sales. It might be Quick Response but we are not one hundred percent sure.'

As sales increased rapidly, the retailer was establishing what it could sell to ensure maximum utilisation and identifying a saturation point for its sales. The planner argues that a saturation point exists and that the shirt does not have constant sales. 'All the stores could participate in Quick Response but the saturation point will affect sales negatively. We have established the minimum stock.'

5.3 Shortcomings

5.3.1 Relationships between the companies

The Quick Response project has forced the three companies to work closer together as they have to communicate more frequently and be more open and trustworthy. Although these companies have worked together in the past their relationships are filled with mistrust. Quick Response has forced them to face and solve problems. As the manufacturer's planning manager points out: 'Quick Response is reliant on the links between companies.'

Before the project began the two suppliers sat down with the retailer and discussed the requirements. The mill's engineer says they agreed on the type and quality of information needed. The suppliers also aired concerns and questions, which the retailer tried to address.

According to its planner, the retailer sees Quick Response as an opportunity to improve its relationship with the two companies and get more cooperation and input from them. It also believes 'there is enough money to be made by all three companies in Quick Response'.

Even though joint meetings were held before the project started it seems that many issues were not resolved then. These include the ownership of stock and the use of Pareto improving measures. Another issue was standardising and optimising packages in which goods are moved or stored. By ensuring they use economic package sizes the companies will cut costs as packaging and space would not be wasted. It seems not enough research was done on Quick Response beforehand, resulting in crucial issues not being addressed in advance. The retailer's planner admits that it misunderstood what Quick Response is really about: 'You cannot just snap your fingers. You have to involve the suppliers and together decide how to implement it.'

However, it is not just relationships that can hinder effective communication. The mill does not have an EDI system that indicates the retailer's sales and allow it to respond to it. 'We have to respond to orders from the garment manufacturer and then dye up what is needed,' say the mill's planner and its liaison. EDI would allow the mill to turn around quicker and react quicker to sales.

Hirst and Zeitlin (1991:7) agree that projects such as these can only succeed if it includes trust and co-operation between supplier and buyer. However, they do not see the mistrust disappearing in the current neo-liberal regime of cutthroat competition and unregulated markets.

Successful Quick Response requires partnerships and trust between the companies involved. However, in this project the nature of the relationships between the industries ensures it is difficult to achieve. The retailer can only generate profit if it cuts costs. The shirt cannot be too expensive as it is a basic product found in other retailers too. It can cut costs by ensuring that its supplier provides the product at the cheapest price. The state of the local

clothing industry will ensure enough competition and a cheap price. The same applies to the manufacturer. It has to find a textile mill that will provide it with cheap materials. The selling price to the retailer has already been set. The only way the manufacturer can ensure sufficient profit is getting the cheapest price from its supplier. The retailer also informs the mill what the price will be. 'We then fight with the clothing industry because that is where our profit lies,' explains the mill.

Despite these problems, the project resulted in an improvement of communication between the manufacturer and the mill. 'Quick Response will be successful if the manufacturer provides us with quality information in terms of the orders and delivery dates,' says the mill's engineer.

The retailer admits that not enough trust exists between it and its suppliers. Yet there still is hope. The future might be on the 'technological side' as the retailer's planning manager, planner and technologist describe it. 'We established three-way cooperation on our product development programme. Our intention is to supply basic information to suppliers. This has increased the trust between us. Internationally, retailers are getting closer to their suppliers using technology,' they add.

Another issue that harms relationships concerns retailers playing suppliers off against each other. The suppliers fear that the retailer is not fully committed to them and might move to cheaper suppliers using the information from this project. The CEO of the mill and manufacturer explains: 'At my previous job we bought from many suppliers and played them off against each other. We were not important to them and they were not to us. Then we decided to take on only two suppliers. We meant a lot to each other. The moment they had a problem they informed us. Both sides were committed to making it work.' The mill's managing director adds that retailers use four or five mills to spread their risk. The retailer's planning manager, planner and technologist admitted to being more committed to the bigger suppliers.

That would entail the suppliers becoming hundred-percenters – only supplying to this retailer. However, the manufacturer's planning manager has a problem with this: 'If the retailer cuts back because of falling sales we will suffer. We have our eggs in many baskets, not just one.' The price for this is of course that this manufacturer will never have the full commitment of the retailer.

Quick Response can only succeed if all the partners are committed. Van der Riet (1989:A2-4) calls for the traditional adversarialism to be replaced by partnerships filled with trust, openness and commitment. This would help the pipeline enter into a flexible specialisation arrangement (Amin, 1994:21).

5.3.2 Power differentials

Rainnie (1991:56) believes harmonious relationships, as discussed above, will be difficult to achieve because of the power differentials between suppliers and retailers.

It is the case in this pipeline where, as in most others, the retailer has much more power than the suppliers. A lack of trust and openness is the result. As the manufacturer's managing director says: 'Every time we have a problem with the retailer's order no one wants to be the one to notify the retailer. We are scared of possible repercussions.' Because of this fear, the manufacturer informed the retailer a day before delivery that an order was late and that it needed an extra week.

The garment manufacturer also does not trust the retailer. It is worried that the retailer might give information to other suppliers and move to these if they are cheaper. It believes that Quick Response for the retailer only means not holding stock as the manufacturer and mill now hold it. The manufacturer's managing director believes that the retailer defines Quick Response as 'having no more stock' instead of 'having the right product at the right time in the right size and colour'.

The retailer's planner believes the manufacturer is committed but complains because it is not liasing with the retailer. He says that it is not only the lateness of the order but the fact that the retailer was only informed a day before.

The retailer's technologist on the other hand describes the relationship between the retailer and its suppliers as 'a two-string bow'. He explains: 'If we do not pressurise them they will not perform. There has to be fear and intimidation to make them perform. If you are good friends the supplier might use this to extend the time on an order, which could mean problems for the retailer.'

According to October (1996:17), retailers' power has lead to manufacturers becoming glorified sub-contractors for huge retailers and feeling owned because of their dependence on them. Retailers selling clothes at a high cost and paying manufacturers little have reduced profit levels in the clothing and textile industries. The mill's managing director concurs and argues that local textile and clothing companies have allowed retailers to become too powerful. 'They dictate to us and ride on our backs. There is no trust, sharing of information or partnerships. Maybe we should open our own shops,' he adds.

The ISP (1994:71) found that retailers' high mark-ups stifle demand so much that some manufacturers change retail outlets to increase demand for their products. Often retailers do not pass on savings made by suppliers to the consumers. The NPI blames local retailers for the failures of the earlier Quick Response projects. This is because retailers are in positions of power over suppliers.

Mistrust can negate the gains made by Quick Response. It will not be easy to rid the relationship of the retailer's power so the retailer should not abuse its power. This could help eradicate mistrust and ensure openness. It does not mean that the suppliers will be less efficient. In a partnership there needs to be trust and openness. 'Fear and intimidation' are not ingredients of a partnership. Once all the companies see themselves as equal they can build a

partnership and contribute more to ensure success. If the relationship were seen as more equal the suppliers could reward the retailer with more openness, especially regarding problems. If the companies in this pipeline can achieve this it would be in line with Bessant's (1991:267) description of relationships in post-Fordism. It needs a radical shift in the nature of relationships between organisations. Doing this, would allow the companies to co-operate better and compete more successfully.

It is necessary for all the companies to voice their commitment to the partnership. Knorr and Newman (1992:64) suggest companies who intend implementing Quick Response have regular top-to-top meetings involving all sectors. Current meetings exclude the retailer's top management and the spinners. The implementation team must have real authority and be empowered by top management.

One way to ensure more openness is if the retailer were to inform the suppliers of its forecasted sales and budgets. This would make forecasting and planning at the manufacturer and mill easier. If a certain amount of units were guaranteed it could mean shorter lead times. The garment manufacturer is worried that if it forecasts and commits to its suppliers and the retailer does not honour the stock in the pipeline at the end of the season it could end up with stock that is not going to be used.

5.3.3 Who benefits more?

The mill and the manufacturer believe that Quick Response benefits the retailer the most as its stock levels are down. This perception can destroy the project. Iyer and Bergen (1997:560) confirm that manufacturers are more likely to lose because of the cost of implementing Quick Response. They suggest certain actions to ensure Quick Response is Pareto improving – all the sectors in the pipeline are as well off as before and at least one sector is better off. Even if one company is not better off financially, participating with others in a successful operation might be enough for it.

Iyer and Bergen (1997:562) suggest manufacturers are responsible for garments left over at the retailer. Retailers then pay holding cost through the season, but have a salvage value for each garment equal to its wholesale price. This will increase the manufacturers' profits. The retailer could also provide the manufacturers with more prominent shelf locations and display space. Price adjustments, on the other hand, are not often used to make Quick Response Pareto improving. Manufacturers would rather negotiate on service level and volume commitments (Iyer and Bergen, 1997:565).

This is echoed by the manufacturer's sales manager who suggests the companies assess the project after its completion. 'The assessment should be on quantifiable issues to ensure no differences of opinion. The retailer could possibly compensate the garment manufacturer if we did not benefit from the project.'

Two pre-existing channel arrangements, which Iyer and Bergen (1997:563) identify as providing conditions to make Quick Response Pareto improving are consignment inventory and markdown money. Additional action can be price commitments, commitments regarding service levels or volume commitments.

Hunter (1990:90) also found that retailers and garment manufacturers benefit more from the savings brought about by Quick Response than the mills and fibre manufacturers. He (1990:91) suggests that fibre and fabric pricing should reflect the costs of the two primary producers.

5.3.4 Problems between the textile and clothing industries

To add to the above problems, the local clothing and textile industries have a history of conflict around tariffs. During the apartheid years high tariffs on fabrics protected the textile industry and allowed it to set prices free of international competition. (This import substitution combined with apartheid to constitute what Gelb (1991) called racial Fordism.) Local fabric prices were

high, yet the clothing industry could not import fabrics because of the high tariffs so it asked government to lower those tariffs.

The mills, on the other hand, wanted those tariffs to stay in place to protect them. (At the same time the clothing industry opposed lower tariffs on garments.) This is not a good foundation for relationships filled with trust and openness.

The manufacturer's managing director, sales and planning managers believe this conflict gave rise to an 'us and them thing'. They deem the local textile industry to not deliver as well as its overseas competitors. This is attributed to the spread of fabrics, which is too diverse.

With South Africa's re-introduction into the world economy the government decided to lower the tariffs for the textile and clothing industries by about 50 percent in eight years, not twelve as suggested by GATT (Finance Week, 1995:9). This, according to Nel (1997), lead to increased job losses in these industries.

5.3.5 Forecasts

The textile mill often knits just-in-case stock before it has received an order to ensure that it is not late with deliveries. 'We decide if we want to knit all the meters ahead of time, saving on machines in that way,' explains the mill's liaison. The mill can afford to do this as it agreed a minimum order with the retailer at the beginning of the project and as the X-tuck is a core product with a stable demand.

However, if the Quick Response project broke down or the retailer withdrew the mill would be left with stock that it cannot move. The mill argues that if the retailer shared projected sales with it knitting just-in-case stock would not be necessary. Knorr and Newman (1992:64) agree and suggest companies who implement Quick Response share data with the other companies in the

pipeline. Yet if the mill knew how much to produce it would probably continue with this practice to ensure that it is never late.

The reply of the retailer to its suppliers wanting forward cover and a commitment on how big Quick Response will be is that it does not know as it is the first time the project is run. If the retailer were to commit and it did not need as much it would be a problem. The mill's managing director points out that at the beginning of the project the retailer could channel excess to its stores that were not on Quick Response. However, when all stores are on Quick Response, there will be no such escape route.

The retailer's distributor believes it must be much more honest with its suppliers: 'We do not indicate what our projected or actual sales are. But we are in a partnership now and should work together. The contracts share certain information but not all. It is a culture thing. Why should they not see it? We should share the good and the bad.'

The manufacturer and the mill buy on the retailer's forecast. But if this is wrong and the suppliers have to produce more dark colours or large sizes than expected their original unit price increases. Yet the suppliers cannot change their price then.

This is especially problematic for the manufacturer who claims to have low profit margins on the X-tuck. The manufacturer's managing director explains: 'The current arrangement means that increased sales increase returns for the retailer. This is not the case for us. We operate on low margins and the problem with the collars and the use of specialist machinery is making it tight. The retailer needs to predict the amount of units it will use for us to ensure availability.' The manufacturer was hoping the retailer might pay more for the X-tuck due to the increased sales. However, the retailer itself claims to subsidise the X-tuck.

The possibility of costs increasing during the project should also have been addressed beforehand. A solution could be to construct a model using the

retailer's forecast. Once the sales start differing from the forecast the retailer adjusts the original price to ensure that the manufacturer does not lose.

5.3.6 Worker involvement

Cappelli and Rogovsky (1994:220) argue that Quick Response manufacturing is very close to the flexible specialisation model of Piore and Sabel. Cappelli and Rogovsky (1994:205) believe that flexible systems such as Quick Response will require highly skilled workers who have greater autonomy. In addition Mathews (1989:108-113) argues that post-Fordist work organisation consists of minimised division of labour; multi-skilling and the acceptance of greater responsibility by workers; teamwork; wider involvement during decision-making and shared supervision. But in South Africa most workers are not highly skilled and Mathews' criteria is absent. Thus the success of Quick Response here is doubtful. Its implementation seems to be a move to neo-Fordism or a relaxation of Fordist structures, not post-Fordism (Mathews, 1989:34).

It is difficult to imagine management giving workers greater responsibility and decision-making powers when the mill's engineer believes management is aware of competition but workers are more self-gain driven. This attitude is more evidence that South African workplaces will find it difficult to move beyond neo-Fordism.

Functional or employment flexibility, as used by this manufacturer, is also evidence against a move to flexible specialisation. Explains the production manager: 'We employ more people depending on the skills required for a garment. When we cannot find the skills at the door we use our own. It also depends on the customer. For this retailer we use our own people.' The use of casuals will not translate into an increase in worker autonomy, involvement in decision-making or shared supervision as casuals are not employed for their skills and have no relationship with the company.

Notwithstanding all the doubts, the manufacturer's production manager believes Quick Response will result in less management input on the shopfloor.

If the companies involve workers it could also lead to better industrial relations. According to the ISP (1994:71), a stable industrial relations environment is a prerequisite for Quick Response. It cannot be successful if there are frequent work stoppages. The LMC (1996:76) warns that relations between management and workers could be a constraint to the success of firms.

5.3.7 Importing integrated packages

By only introducing the technical side of production methods like Quick Response and not aspects like worker participation, South African companies are not heeding the warning by the LMC (1996:93) that there should not be piecemeal introduction of parts of an integrated package of measures. Methods like Quick Response were constructed in the context of flatter management structures and smaller earnings differentials than locally (LMC, 1996:93).

Hunter (1990:157) urges garment manufacturers to introduce modular manufacturing, as it is essential to the success of Quick Response. This change in work organisation would mean greater worker participation. The benefits of modular manufacturing are faster response times, enhanced worker motivation, increased quality, lower total costs, freed up capital and a system conducive to change. This manufacturer has introduced some modular units on its shopfloor although Quick Response does not use them. The workers in these units do planning without a supervisor. According to the production manager there is multi-skilling, less instruction and higher output in these units. If Quick Response is successful, she says they might get more modular units instead of lines. The use of modular units is a move towards flexible specialisation.

Although modular units are not used for Quick Response, a mini Quick Response is evident on the production lines claims the production manager: 'There are no bundles lying about. The worker in front pulls the bundles through [just like Quick Response].'

Ewert (1992:18) found that although new information technology, automation, changing work organisation, improved quality and reduced lead times are evident in some companies, it is usually coupled with strong Fordist features – similar to the companies in this project. This confirms that many companies have piecemeal introduction of new methods, which translates into a shift towards neo-Fordism, rather than post-Fordism.

5.3.8 Cutting lead times

The shortening of lead times as done by the mill and the manufacturer is in line with Hunter's (1990:42) preconditions for the implementation of Quick Response. However, Hunter's proposals show that these firms can go much further. He suggests duplicate stockholding and just-in-case stock be eliminated and work-in-progress times cut. He also suggests the adoption of flexible manufacturing, quality management and just-in-time. Cutting lead times will ensure a shorter pipeline and, proposes the ISP (1994:71), help the companies in the pipeline survive and even prosper.

Fisher and Roman (1996:87) regard the lead times required to manufacture and distribute goods as increasing in importance. Quick Response cuts these lead times by using operational change such as how often orders are placed and how late colouring-up takes place. Quick Response counters the problems of unpredictable demand and the long, complex supply chain by reducing lead times so much that part of production is committed only after some sales have occurred.

Quick Response has meant a reduction in this pipeline's lead time from between two and four months to three weeks, i.e. the mill and manufacturer will replenish in a three-week period. This allows the pipeline to respond

quicker to sales trends and have the appropriate stock available in the stores. The retailer's planner explains that the three-week lead time was chosen because of cost. 'It is not worthwhile sending only two or three shirts to a store only a couple of days after the last order.'

The textile mill has cut the lead time as the customer does not have to confirm the colours anymore; by preparing the dye and doing the laboratory dyeing beforehand; by keeping greige at the mill; by reducing delays in the clerical process; and by eliminating the stage where the colours of the dyed yarn are matched with the original specifications. The mill has increased its efficiency. Explains the mill's liaison: 'When I get a Quick Response order from the manufacturer I handle it within three hours. It immediately goes to planning and is put on the system. We check the order, organise the planning, check for greige and respond to the manufacturer.'

The garment manufacturer wants delivery from the mill within one week and not ten days. The liaison believes if they plan properly and have greige they could do it. 'But at this stage we cannot reduce the lead time because of the problems. The current three-week lead time is safe. For this project there should be greige in the pipeline.'

After planning the mill treats a Quick Response order like any other. The mill's managing director claims the three-week lead time for a Quick Response order is no different from others. 'The project will have little influence on us. It will only impact on the sales, financial and production departments. On the factory floor Quick Response will affect people no differently. For us it is purely about production planning and not actual production. We find producing the X-tuck shirt to be easy.'

The mill's engineer confirms only the administrative functions have changed. Queuing times, which make up the majority of the lead times in administration, have been cut. For him it does not matter if just-in-time is not used to cut the lead times. As long as the lead times are down the retailer will be satisfied and that is all.

The engineer and the liaison confirmed that when a Quick Response order is late the mill red-flags it so it enjoys priority. Still, it is not identified as a Quick Response order on the floor.

Quick Response has forced the garment manufacturer to reduce its lead time. It has done this successfully with its clerical process, which it has reduced to one day. It has also managed to reduce its work-in-progress time. According to the planning manager the three-week DI period was identified as the shortest time within which the manufacturer and mill can do their work. This is based on the manufacturer's ability to produce 900 garments per day. If the garments have been cut already the manufacturer can do everything before it goes into the warehouse within a week. The mill needs two days to dye and dry the textiles. Thus, it has three days to dye the collars. But, because of the problems with the dyeing, an extra week has been added. The manufacturer hopes to cut the DI period to two weeks when all the dyeing problems have been solved. It tried to persuade the retailer to drop the problematic colours such as teal but because the sales are up it would not.

'The clothing sector as a whole has had to look at throughput times – being able to do things in a shorter time,' adds the planning manager. 'This allows the customers to delay their final decision regarding colour and size to the last possible moment. We have to adapt to stay competitive.'

The lead times on the shopfloor have been cut using the minute rate – the time and cost to produce a shirt – to determine what can be done to improve production. The engineer believes the manufacturer needs to concentrate on pre-production, where the delays are 'scary', and the floor to respond to the retailer even quicker. He does not think the manufacturer would have a chance if it implemented Quick Response on all products. 'We are committed in principle, but not regarding resources.'

Quick Response adds pressure as it shortens lead times. According to the production manager they will have to plan carefully and might have to stop

their own brand to allow for the X-tuck shirt to be produced. The engineer fears shorter lead times could translate to strained relationships and increased tension. 'We are working overtime because we have over-committed.' He admits that their planning systems are not good and that Quick Response could force them to do something about it. 'With the right kind of internal systems Quick Response should work. The project concerns information flow from the retailer and how we respond with the mill's materials. Quick Response is not just a quick process; it is the right response.'

Cutting lead times also has its benefits. The CEO says that the shorter lead times are bringing in new overseas customers. He explains: 'We might be more expensive than others but we are able to deliver quicker and on time. Customers appreciate that hundred percent probability with zero time is better than zero percent probability with hundred time even if it is more expensive. Shorter lead times create certainty.'

The retailer has reduced its clerical process between availability and DI from between two and fourteen days to one day. It will give a DI of at least 1000 shirts every three weeks. The retailer gets its stock updated once a week and its sales every day. 'In theory,' says the planner, 'the idea is to sell one and replace one.'

Shorter lead times mean that the retailer can plan stock levels better. 'Previously the process took eight weeks. Now it is four-and-a-half to five weeks (three weeks to manufacture and a week and a half to two to deliver),' explains the planner.

The mill feels that it is not necessary to implement Quick Response on its floor as it is already running in Quick Response mode there. This implies that it cannot cut its lead times further. Yet Bessant (1991:78) observes that with flexible specialisation the routing and scheduling within factories are always being improved. At bottlenecks and inspection points, in transit between operations and in warehouses products lie inactive without value being added. Improving product flow will increase efficiency. The mill's engineer believes

the way to cut queuing time is to monitor the work-in-progress and plan the maintenance of the machinery to eradicate breakdowns.

5.3.9 Collar matching

Implementing this Quick Response project, the pipeline has had to pay more attention to an existing problem: the dyeing of the collars. The X-tuck shirt's body is made of cotton and polyester whereas its collar is made of cotton. Because of this the two parts are piece dyed separately. After dyeing the parts often do not match, as the teal is inconsistent. Hence the suppliers regard the X-tuck shirt as a difficult product to use for the Quick Response project. A T-shirt would have been easier. The manufacturer's managing director at the start of the project already predicted its collapse due to the use of teal and the accompanying dyeing problems.

After the garment manufacturer knits the collar the textile mill dyes the body and the collar. For the mill to dye the knitting has to be good enough. The mill's engineer says that the whole industry has problems with the dyeing of greens. The mill has even tested its water. 'We can minimise the effect of any problems by communicating with the clients so that their expectations are not as per normal,' he concludes.

With lead times being cut, matching the dyed collars and bodies became more important. The first two orders were late because of dyeing problems with teal with the second delivery taking four instead of three weeks.

Realising that teal will always be a problem, the retailer's planning manager suggested standardising the colour-way for there to be only one teal throughout the season. This eliminated the problems of dyeing different shades of teal in summer and winter and ensured surplus stock can be used the next season.

The dyeing problems forced the pipeline to look at importing dyed yarn. However, this was too expensive so the mill did more tests. According to the

manufacturer's sales and planning managers the project is costing three times more because of the re-dyeing. Because of the problems with piece dye the companies started investigating the possibility of moving to yarn dye for the collars. Yarn dyed collars would be easier to match with the body. 'If we were to go this route,' says the mill's planner and liaison, 'the manufacturer would be responsible for ordering the dyed yarn.'

If a dye house were to be included, the mill would send raw yarn to the dyer who would dye according to the retailer's specifications. The mill then matches the dyed collar with the body, which is still piece dyed. The mill's liaison explains that it would be too expensive if the body were yarn dyed as well, as piece dye is less expensive than yarn dye. She does not see dyed yarn solving all the problems because of late deliveries from the dye house. The mill's managing director also has a problem with the inability of local dyers who do not dye quickly or consistently.

This might mean investing time and energy in the yarn dyer, but it could rid the pipeline of the dyeing problems and cut the lead time. So why not use dyed yarn from the start and eliminate the dyeing problems? The retailer's planning manager, planner and technologist accuses 'the people that initiated the project' for not exploring all the options. The manufacturer's sales and planning managers have a different view: 'The X-tuck usually uses yarn dye, but because the project does not have a set programme it uses piece dye. If the retailer could project its sales we could change to yarn dye.'

The collar-matching problem, although part of the pipeline before the implementation of Quick Response, has contributed to problems experienced during the project. It has affected the relationship between the companies, especially the mill and manufacturer, and caused orders to be late. The manufacturer's production manager sees the problems as being on the mill's side. She adds that problems mean they have to work overtime, which makes the shirt more expensive.

Three days before the first order was due, the manufacturer informed the retailer that it would be late. According to the retailer's planner and planning manager the manufacturer had received the white shirts but was waiting for the teal and indigo orders. The mill had the bodies but the collars were rejected. 'The mill's managing director feels that the dyeing of yarn is the manufacturer's problem. They blamed each other for the delay. Ownership needs to be sorted out as the mill argued that the collars were the manufacturer's property,' add the planner and planning manager.

The retailer is still waiting for the mill to come up with the right recipe. The planner admits that the problem could be avoided by only using white 'but that would not prepare us for the future. Both suppliers are good manufacturers with smooth production runs. Their problems are lateness and matching.'

5.3.10 A dependence on individuals

Another shortcoming concerns the project's dependence on individuals. The success of the project can largely be attributed to the dedication of those involved. This is good but it has a negative side: if these people were to leave or their relationships were to sour it could mean the end of the project. It is essential that proper systems be put in place, which lessens the reliance on individuals.

At the start of the project the retailer's planner left and were replaced. The new planner started off not knowing what had been decided on. He explains: 'Initially I was running around and the objectives were not clear. It should have been documented to keep next to your desk.' Proper systems could ensure the project's survival. It would also eliminate problems that could be experienced with the partners in the pipeline.

This is also a problem at the manufacturer. Its engineer describes the manufacturer as operating very informally without systems. Things are rather left to individuals.

5.4 Profiles of the companies

In order to fully understand how Quick Response functions it is necessary to know what impact Quick Response had on the companies. This section will construct profiles of the three companies in the project.

The data in this section was gathered using in-depth, unstructured interviews, and observing meetings. The companies' employees outlined their jobs and that of their departments. Using this, profiles were drawn up.

5.4.1 The retailer and Quick Response

The retailer chose the X-tuck shirt for the Quick Response project. It sells the shirt in its menswear department countrywide. It is a 'basic good', as it is ordered more than eight times a season and sold year round. The retailer sells the shirt directly to the public at an unknown demand. The shirt has a polyester and cotton body and a cotton collar.

The X-tuck shirt is sold throughout the year. It comes in four basic sizes and in different colours. They are basic colours (white, black, teal and indigo) and others such as red, orange, blue and yellow. The basic colours sell throughout the year.

During a normal season the retailer starts by determining a month-by-month budget. It makes forecasts for the season based on guesstimates and indicates these to the supplier. It also determines the quality, colour and size ratios – SKUs. The retailer then orders and processes the kimble tickets with expiry dates and prices on. (Thus the garment manufacturer knows the retailer's margins.) Once the manufacturer has availed the order, the retailer sends a DI to the manufacturer who packages the shirts. The retailer also informs the transport company who distributes the shirts to the various stores. Once the retailer receives the order, it will be invoiced.

The retailer establishes its model stock (desired stock level) by looking at the highs and troughs of a season. It is largely a thumb-suck using the stores' estimates of sales and stock levels. It is usually an eight-week forward-cover – stock to last a store eight weeks without additional purchases. This initial stock is the model stock. Once sales have taken place the model stock is replenished to return to its original level.

The retailer's budget for the shirt will take into account head office's sales goals. Buyers will then determine the trends in demand and shades for the shirt, using overseas examples and historical sales data. Using this the planner will construct the budget and determine the desired opening stock for winter and summer. The planner will then make an estimate of sales on a monthly and weekly basis.

The retailer's head office orders using stores' sales levels, the history of the product and technology. The only concern for the retailer in the production process is the final product: was it on time, in the right colours, qualities and sizes, and at the right price? The retailer will take an order with 5 percent discrepancy (95 percent or 105 percent of the original order).

The retailer can change an order up to two months before delivery date or before the fabric is dyed. After that it is responsible for the fabric. The retailer should not change its order after a contract is signed but sometimes it does.

The retailer contracts a transport company to deliver its goods. Previously, the garment manufacturer organised the transport but the service was unreliable. This company has given the retailer guarantees about the time periods of deliveries. However, the transport company is not delivering on time. The garment manufacturer also has problems with the transport company: the trucks will not move until they are full. The transport time is sometimes greater than the lead time and goods are not seen as delivered until it actually reaches the store. Thus, delays by the transport company penalise the manufacturer unfairly.

Other problems for the retailer include stock-outs and overstock, which result in lost sales or cost of sales because of markdowns. Another problem is that the kimble tickets have dates, which set the inventory at zero when the season is over. Thus, the stock expires but is still kept.

The retailer's priority in the Quick Response project is to reduce lead times: it has already come down from two months to three weeks. It assumes that if customers can find the right product (colour and size) in the store they will buy it. It believes increased inventory will result in increased sales. Quick Response for the retailer means saturating the market; maximum utilisation of the quality; not holding excess stock; transporting goods from the supplier to stores in three days; what has been sold becomes the next order; and reduction of stock-outs because of shortened lead times. The retailer aims to replenish each SKU to a model stock in the shortest time. The retailer's stockholding has been moved back in the pipeline to the mill and manufacturer. Because basic goods, like the X-tuck, have predictable sales it is easier to use in Quick Response than fashion goods.

Quick Response relies on reliable transfer of the product, reliable sales data capturing at the points of sale and the feedback of this information to the planners.

The planning department is the project's engine. It generates the DI, checks the stores' stocks and calculates the model stock. Much of the project's success can be ascribed to the people in this department. The technology department is involved with the dyeing problem. The retailer has experienced dyeing problems with teal, one of its most popular colours, for a while now.

The retailer wants to use Quick Response to bring down stock to a minimum level to get maximum profit, taking into account the peaks and valleys of stocks. For this project the retailer's main challenge is to calculate the model stock correctly and give the DI on time. The project can only succeed if the retailer commits at the right time and sends a DI immediately after the supplier has given it the go-ahead.

For Quick Response the retailer performs the DI in one day. Initially, at least 1000 units per colour (three colours) were ordered every three weeks. This increased to 2000. The retailer can DI every week but at least every three weeks.

The retailer regards Quick Response as a forerunner to model stock replenishment where more basic goods are ordered more frequently. Each store will receive a distribution unit containing different basic goods. The retailer has informed the mill and the manufacturer that Quick Response will be replaced by model stock replenishment.

5.4.2 The garment manufacturer and Quick Response

The garment manufacturer is a job shop – it produces goods to be sold somewhere else and does not hold any inventory of the finished goods. Its only inventory is the goods awaiting DI from the retailer. It receives orders, procures raw materials and produces the orders. Each order is unique and specialised.

When the manufacturer over- or under-produces an order by more than five percent the retailer does not accept the goods. This can happen through inaccurate planning or good production where there are no faults in the process. The manufacturer usually makes too many units to cater for mistakes. The goods can then be sold in its factory shop or to other dealers after an agreed time to ensure the retailer does not lose any advantage on designs.

The company regards itself as having reliable service and good quality, being able to accommodate customers and one of the better garment manufacturers in the Western Cape. It acknowledges that it is quite expensive, but believes the above negates this. It receives orders from the retailer, processes it and orders from its supplier. Its supplier of the X-tuck shirt is under the same roof, which cuts down on transport times and cost.

When the garment manufacturer receives a DI it does three things: order fabric and collars from the mill, instructs the mill to replace the greige and gives a cutting order to replace the units that have left the warehouse. The manufacturer buys fabric from the mill in two forms: piece-dyed or yarn-dyed. The manufacturer converts an order from garments to fabric required and procures the necessary from the mill.

The garment manufacturer must order a minimum amount of fabric from the mill to make it worthwhile for the mill. If the order is less it must decide whether to order and what to do with the excess if it does. Its biggest risk is the commitment it makes to the textile mill based on the information from the retailer.

The planning manager has to ensure that enough space exists on the floor to honour an order. This department does everything until pre-production: buying, design, approving samples and printing. It receives the DI, procures fabric and books embroidery space. Production takes place based on the SKUs needed.

On the floor there are two sections: cutting and finishing. The production manager oversees this as well as the sewing and warehouse process. The cutting section receives fabric from the mill and cuts it into the appropriate sizes and fashions. From there the product moves to the finishing section in bundles containing all the components. On the production line the product is assembled, examined and finished (ironing and bagging). The workers sit in long lines at machines. Each worker performs a certain function, contributing to the final finished product. These functions include sewing on buttons or collars or stitching the front and backsides together. It then goes to the warehouse for despatch.

The company has introduced another method of work organisation, the modular unit, aimed at increasing efficiency and productivity. It uses multi-

skilling and involves fewer workers with more skills in cells. Each worker possesses the necessary skills to produce the whole shirt.

Concerning the collars for the X-tuck shirt, the manufacturer knits them after receiving the yarn from the mill. It then returns the finished collars to the mill that dyes it or sends it away to be dyed. However, there were delays and problems with the dyeing. The conflict exists because the garment manufacturer cannot cut and produce without the collars. The mill and manufacturer disputed ownership of the fabric while it is being dyed especially when there are problems.

The garment manufacturer is looking at ways to cut the lead time. The production manager and the work-study department found ways to lower the minute rate (time and cost to make).

If need be the warehouse will work overtime to ensure that deliveries are on time. There are no constraints on production. It can use overtime, Cut-Make-and-Trims (CMTs) or increase its capacity by hiring temporary staff. On the floor there is a 60-90 percent efficiency rate of targets reached. The manufacturer has constraints on space. If the warehouse is full it slows down the production process.

The sales manager generates sales by acting as a sales representative to retailers. Her job is selling, promoting, client service and marketing. So she has to keep abreast of new fashions. She works closely with the technology and design departments and the TQM section on pre-production. The manufacturer can develop new products according to fashion trends. The manufacturer has summer, winter and fashion ranges. Its strength is its design and sales team who are professional and methodical.

The sales manager and the retailer's buyer decide on colours. The designers work with the retailer and have a good relationship with it. They prepare redseals (first samples) for the retailer to check. If it is approved the manufacturer continues. After agreeing on style and negotiating costs the

retailer can order. The X-tuck shirt started with the retailer and was developed by the manufacturer.

The sales manager cannot finalise negotiations until the colours are matched. Different colours affect the price of the X-tuck. The mill and the sales manager approve the colours and establish the recipes for the collars and bodies. Collar matching is done with new colours. For the X-tuck the body is single jersey and the collar double jersey.

The manufacturer's engineer monitors the flow process: how it works, how long it takes and how to solve problems.

If the garment manufacturer misses a delivery date the retailer can cancel the order. However, it is usually not this harsh.

For Quick Response the garment manufacturer produces 2000 shirts per colour. At any time the pipeline has 2000 shirts in greige at the mill, 2000 shirts coloured-up, needing to be cut, and 2000 shirts in finishing. (It aims to reduce this to 1000 later on.) On receipt of a DI the manufacturer has three weeks to replace the finished goods. For this project the manufacturer holds stock for the retailer. It sometimes uses the just-in-case principle and produces excess to ensure that there is always stock. On receipt of a DI from the retailer the manufacturer must replace the DI and order. When it receives a DI, three things need to happen: order fabric and collars from the supplier, the supplier must replace the greige in the pipeline and process the order to cut to replace the stock in the warehouse.

The three-week lead time for this project suits the manufacturer. It decided on this lead time having calculated the shortest time that it needed to produce the shirts. If the cutting has been done the manufacturer can complete the process in one week. The mill needs two days to dye and dry and three days for the collars. The extra week is in case of problems with the matching. It reduces queuing time to ensure a shorter lead time.

The most crucial question for the garment manufacturer is who owns the Quick Response stock left at the end of the season: the retailer or itself?

One of the manufacturer's biggest problems is the matching of collars with the dyed bodies. At one stage the pipeline considered importing dyed yarn. However, this fell through because of the cost involved.

The manufacturer red-flags the Quick Response orders to jump queues except if another order is in progress or is an export priority. It does this to ensure that the Quick Response orders are not late and the retailer happy. But this can jeopardise other orders or force the company to increase production to ensure deliveries are on time. It claims that it can only do the project by red-flagging. The manufacturer will plan the Quick Response orders taking into account the capacity of its factory but the Quick Response orders will enjoy priority.

The manufacturer sees Quick Response as a hands-on approach to handling orders. It believes that a successful Quick Response project would mean more orders; measuring the true value of the X-tuck in the marketplace; and ensuring the mill pays more attention to dyeing problems.

The manufacturer believes that the project would only be true Quick Response once all colours and sizes have been included in the project and not just a few colours as is the case currently. This would place more pressure on the three companies and show whether the pipeline can really handle Quick Response.

5.4.3 The textile mill and Quick Response

The textile mill is also a job shop. In it there is a set route: from preparation to planning. In the planning department a knit-by date and a dye-by date is decided on. The necessary yarn is then procured. This can cause delays, so the mill often has yarn in stock. After this the dye recipes are prepared. The knitting takes between one and three weeks. Breakage of yarn and change

over of machines cause delays and extend the lead time. The mill has designated machines for the X-tuck shirt. There is also a standard piece length.

According to its managing director the mill's sales people forecast based on the customers and historical information. Using this it constructs a budget for its operation. It then checks that there is raw materials and production capability. The mill has two options: produce beforehand or produce on order. Its bottleneck constraint is knitting.

Dyeing can take one week. During dye preparation the recipes are tested to ensure that the polyester/cotton bodies and the cotton collars will match. This is difficult with bluish colours, such as teal. Different fabric demands different dyeing machines. After dyeing, the fabric is dried and heatset. Few machines exist for this so there are long queues and thus bottlenecks. During the dyeing there is constant quality control, as stipulated by the retailer.

The X-tuck's collar is the mill's biggest problem. The mill contracts the manufacturer (who is also its client) to knit the cotton collars. (This causes a dispute over the ownership of the collars when dyeing problems occur.) The collars cause delays because of the difficulty in matching them with the dyed bodies.

The next process is finishing which can take two weeks. Here lapfolding, padding, drying, inspection, ironing and folding take place. This is followed by a quality check (for fastness, stability and shade), which lasts one day. Thereafter the fabric is packaged and posted to customers.

The mill has good capital production because it has mainly new and good older machines. Breakdowns are limited because of good service methods. The mill never plans 100 percent capacity to absorb any extra load it might have and never prioritises an order unless it is late. (The dye house has a capacity of 65 tons/week but it only procures 45 tons/week.)

Although the mill is expensive, its quality is among the best in the country. This, coupled with reputable customers such as leading retailers, bring more customers. It has increased its exports due to the implementation of ISO9002 and TQM, its relative quick lead time and on-time deliveries.

Another problem in the mill is queues. Bottlenecks are found at knitting and heatsetting. If this could be eliminated lead times could fall drastically as the work-in-progress (from dyeing to finishing) is only three days.

Most orders that the mill receives are on existing quality. If the mill has to customise quality then the lead time lengthens. The mill is researching more efficient packaging methods to cut down on its high packaging costs.

The mill procures on the retailer's forecast. However, if it is wrong and the mill has to produce more dark colours and large sizes than expected the unit price of the goods increases. However, the mill cannot change its price then.

For the textile mill Quick Response means always having what the customer wants. In a stockless environment this would mean having one of each item and replacing it when sold. It is important for the mill to build trust and partnerships. It sees this project as a way to tie itself to the retailer and build a partnership.

Quick Response only affects the paperwork in the textile mill. Administration has been cut from ten days to one day. Part of the reason is because the customer does not have to confirm and match orders. Things are not done any differently on the factory floor, as it is part of the mill's normal cycle. Quick Response only impacts on the sales, financial and production departments of the mill. These departments have decreased the time they take on the administration of Quick Response orders.

The mill believes it cannot compete on price but on lead times. It could cut its lead times even more by eliminating queues and if the product was

guaranteed and consistent. The mill emphasises short lead times as it creates certainty in sales.

The mill holds 10000kg stock in greige only on commitment. It will not replenish the stock until it is less than 3000kg and the manufacturer recommits.

The mill's workers are not informed about Quick Response so as not to prejudice other orders. Management feels that the workers should continue with their normal work and not give Quick Response priority.

In the textile mill Quick Response orders do not jump any queues except when it is late which is standard practice with late orders. The mill only proceeds with orders on commitment from the clients. According to the mill, its yarn supplier is reliable and that it will not experience any problems with it.

The mill keeps goods at the lowest form of production (knitted greige) until the last minute to ensure flexibility. (Greige is the most inflexible in the mill's pipeline.) It only starts work once there is a commitment for colour and size. When it receives the final order, it dyes and sends the order to the manufacturer. The X-tuck shirt is one of the slowest products to knit.

For the mill the benefits of this project are increased confidence from these clients and others; more business; and using it as a marketing tool. On the negative side it might not be able to extend Quick Response to other products, like fleece, as it is process dependent; the mill runs the risk of upsetting other customers; and the process and the production is difficult.

For Quick Response to be successful in the mill, it needs good quality information on orders, delivery data and successful collar dyeing. The result could be future business with the other two companies.

Chapter 6 Conclusion

In the introduction I mentioned that this thesis aims to establish whether the South African companies implementing Quick Response in an apparel textile pipeline are moving towards flexible specialisation or towards a neo-Fordist method of production. This chapter answers the question.

Before it can be done it is necessary to establish whether what was implemented can be described as Quick Response. Or has it been transformed to address local needs? If it has been adapted, can it still help local companies compete with cheaper imports and ensure the sustainability of the local industries?

6.1 Important observations

6.1.1 Methodology and technological requirements

Van der Riet (1989:A3-17) warns that companies must be sure about Quick Response's methodology and technological requirements before implementing it. However, answers to questions on where the respondents learnt about Quick Response showed that thorough research was not done before implementation.

If it had, this pipeline might have considered Iyer and Bergen's (1997) suggestions on how to make Quick Response Pareto improving. This would have resulted in the garment manufacturer and textile mill being compensated for holding stock. Thus, the retailer would not have been seen as benefiting more from the project than the other two companies, as is the case presently.

Making Quick Response Pareto improving, meaning that no company is worse off than before, would satisfy the manufacturer and mill. During this project, these companies believed that the retailer's high margins did not allow them to set decent margins. If the retailer were to compensate them as

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suggested by Iyer and Bergen (1997) it could make Quick Response worthwhile for them.

If Quick Response were researched thoroughly and a thorough contract drawn up there would not have been confusion about the closing down procedure when sales equal zero (the season or the project ends). It would have been clear who owns the stock left in the pipeline when the project ends.

6.1.2 The role of workers

The manufacturer's management claims that the relationship between itself and the workers is good. Yet, when the researcher interviewed the shop stewards, it had to be done in the human resource manager's office with her present. The company claims that it wants to involve workers in projects but it is not doing it with this project.

The companies in this pipeline are implementing Quick Response without the involvement of workers. Yet Hunter (1990) argues that it can only be successful if companies increase worker involvement and change to more participative management.

To add to this, the Swart Report found that the lack of participative management is impeding improved productivity in the clothing and textile industries (Bilateralism Review, 1994).

Top management constructed this project without properly involving the managers who drive it. This continued during the project. It is also applicable to the relationship between lower management and workers. As a result those in lower positions feel removed from the project. Flexible specialisation can only be successful if the lower management and workers are committed. If they are excluded, this will not happen. The exclusion of workers and any participation by them at the manufacturer confirms that it did not implement flexible specialisation or move totally away from Fordism.

This does not imply that local companies and industries should not move to flexible specialisation. To compete successfully, especially in the clothing and textile industries, they need to move. What it does imply is that under flexible specialisation workers are less secure in their jobs, unlike under Fordist work organisation. So, they need protection and here the government, employers and unions have a role to play. Quick Response and similar innovations require skilled, educated workers. The government and employers should train and educate workers so they can participate in flexible specialisation methods. Employers have a responsibility because without skilled workers they would not be able to compete and might close down.

Government and business also need to show a commitment to labour market security and protection against arbitrary loss of employment as suggested by the LMC (1996). This would probably see workers and unions more likely to accept flexibility in work organisation.

Government and trade unions must ensure workers' rights are not abused under flexible specialisation. Contrary to others, Ewert (1991) believes flexible specialisation can benefit workers if unions are pro-active and well informed. This can be done if unions sign agreements on protection against rationalisation – a possible effect of flexible specialisation.

If local companies plan to introduce new measures they need to ensure that there is not piecemeal introduction of such measures. This does not only mean using all the technology and methodology but also ensuring that the conditions on the shopfloor, such as wages and relationships, are based on where the measures are imported. If this is not done we will never see a truly post-Fordist workplace in South Africa.

6.1.4 Modular manufacturing

The garment manufacturer has introduced modular manufacturing on its floor. Both Fisher and Roman (1996:87) and the Swart Report (Bilateralism Review,

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6.1.4 Modular manufacturing

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1994) believe that the reorganisation of the floor into modular cells can benefit the clothing industry. The former believes that it will cut lead times even further, while the latter argues that it will improve labour productivity. Hopefully, the garment manufacturer will introduce more modular cells and use them in the Quick Response project also.

6.1.5 Just not Quick Response

As per the agreement with the suppliers, the retailer orders at least 1000 units every three weeks. However, what happens if the retailer does not need 1000 units? During the research it was never necessary to order less than a 1000 units but if sales were to drop it could happen. During the research the retailer was able to channel extra units into its stores that were not on Quick Response. This would not have been an option had all the stores been on Quick Response. It could affect the suppliers if the retailer decides it is not going to take 1000 units while the supplier is expecting it. This could result in the amplification of the pipeline.

This agreement that the retailer has to order 1000 units after three weeks does not constitute Quick Response. It does not take into account sales in the three weeks. Thus the pipeline is not using the pull method. It is reverting back to the push method. The logic of this can be understood if the aim is to guarantee certain units to the suppliers, but it does not constitute Quick Response.

Another development in this project that is not part of Quick Response is the use of just-in-case or safety stocks. As a solution to the dyeing problems, the mill considered keeping dyed shirts, as cover should there be problems. This defeats the purpose of Quick Response, which reduces stock keeping in the pipeline.

When the mill knows how much the garment manufacturer is going to order, it might knit everything beforehand. Thus it saves time, ensures orders are in time and has space for other orders. This is also not Quick Response. It is

pushing products forward instead of waiting for the pull.

6.1.6 Responding in time

Previously, when sales increased the retailer would supply the market with more units, often too late because of the length of the pipeline. This project ensures that the retailer supplies these units in time. Now the retailer can respond much quicker to changes in the market and so take advantage of it. This is in line with Cassim's (1992:2) observation: retailers and manufacturers are now targeting specific groups of consumers and are responding quicker to short-term trends in the sales of individual product lines. He (1992:3) adds that the advantage held by long-run garment manufacturers have been ended because price has become less important. Only in the lower end of the market are longer production runs still used often.

Because of Quick Response this pipeline has smaller lead times. Yet Quick Response also involves the use of just-in-time and the elimination of stock keeping. This has not happened with this project. The mill's engineer says 'Quick Response is about cutting lead times. It does not matter that just-in-time is not involved. As long as the customer is happy and the lead times are shorter.'

6.1.7 Relations between the companies

Initially the mill gave the assurance that there would not be any problems with the yarn supplier who doubles as the dyer. However, after the first order was late, the mill admitted that there were problems with the dyeing. As suggested in the previous chapter, the chance of Quick Response being successful will be enhanced if all components of the pipeline are involved. The yarn supplier (dye house) was not involved in this project even though quality and delivery problems were experienced with it in the past. The problems experienced with dyeing, especially that of teal, resulted in orders being late. Quick Response can only be successful if deliveries are on time – it gives the pipeline its advantage over competitors – and if all the parts of the pipeline enjoy equal

priority. In this case the pipeline did not give adequate attention to the yarn supplier resulting in problems. If it had been included from the beginning the problems could probably have been lessened.

The previous chapter dealt extensively with the relationships between the companies. Two incidents illustrate what the absence of trust and honesty and power differentials do to the pipeline: The first order was late. The garment manufacturer only informed the retailer the day before delivery that it would be a week late. If an order were a week late, surely the manufacturer would have known it more than a day before. Why did it inform the retailer only then? On the other hand one can understand that the manufacturer does not want to inform the retailer when listening to what the retailer says. In an interview the retailer mentioned how the fear that the supplier has for it keeps the supplier on its toes. The retailer knows the supplier is afraid of it and that it holds power over the supplier. It believes this fear will ensure that the supplier performs. Surely there are other ways to ensure that a supplier delivers on time and does not step out of line. Fear and intimidation cannot be good for what is supposed to be a partnership based on trust.

6.1.8 Importing yarn

During the project the pipeline, especially the mill and garment manufacturer, looked at the possibility of importing dyed yarn because of the dyeing problems. In the end it did not because it was too expensive. The fact that it considered it is a problem. What if the retailer does the same when it has problems with the textile mill or garment manufacturer? The textile and clothing industries would have been in an even bigger crisis. Why not invest time and resources in the dye house and make sure that it delivers quality products on time? An efficient dye house will solve many problems in this pipeline: problems with the dyeing of blues and with late deliveries. It could increase the chances of being in permanent Quick Response mode. Whether this proposal is feasible or not, I do not know but the benefits thereof are obvious. Hopefully the pipeline, especially the retailer with its resources and motto of quality, could assist the dye house.

6.1.9 Lead time

According to the garment manufacturer's planner the clothing sector has had to work on cutting lead times. Customers need that facility to delay their final decision regarding colour and size to the last possible moment to take into account sales. Yet the garment manufacturer builds in extra time to allow for problems. It claims that the retailer does the same. How much does all this add to the lead time? At the mill lead times were only being cut in the administrative process, yet its engineer believes that production times can also be cut.

Cutting lead times should not be seen as a process with an end. The mill and the manufacturer can go much further. They could start by removing the time built in for hiccups or problems. Hunter (1990) then suggests eliminating duplicate stockholding and just-in-case stock and cutting work-in-progress times. After the firms had done this they could adopt flexible manufacturing, quality management and just-in-time. Lead times should be cut continuously by increasing quality and by scrutinising the flow of goods for bottlenecks and other problem areas. There should be a culture of continuous improvement.

Cutting lead times will ensure a shorter pipeline and help the companies in the pipeline survive. Other companies may be cutting their lead times all the time, so it is crucial for these and other local companies to do the same to become and stay competitive.

6.2 Quick Response or not?

This project has some of the main trademarks of Quick Response. The companies improved their relationships by working closer together and formed some type of partnership. They coordinated their activities, held regular meetings and shared some information. By moving closer together, the pipeline increased its chances of countering cheaper imports.

Quick Response also allowed the pipeline to compete with cheaper imports by helping the companies cut their lead times. The competition was not necessarily on price but by ensuring the right product was at the right place on the right time. Thus the companies were using their local proximity to better effect.

By cutting the lead times, the retailer relied on sales figures to determine orders instead of guesstimates and the suppliers relied on sales figures to produce the necessary garments. This meant using the pull instead of the push method.

All of this meant an increase in sales, which is Quick Response's ultimate goal. This benefited the companies, workers and the industries.

However, this project lacked many features, which form part of Quick Response, as described in the theory. These have been discussed in this or the previous chapter. They include: real worker involvement; proper partnerships with full information sharing and without power differentials; Pareto improving measures to ensure no company loses from this project; and cutting lead times constantly.

This project also contained features that should probably not form part of a Quick Response project. These are minimum orders, which mean that the companies do not rely totally on the pull method; stockholding in the form of just-in-case stock that allows the lead times to be cut; and stockholding by the suppliers for the retailer, which meant that the amplification and volatility in the pipeline were still present.

So, can this project be classified as Quick Response seeing as so many of its features as described in the theory are absent? I believe that it can. The pipeline adopted some features of Quick Response, although they might not have done enough concerning the cutting of the lead times or the forging of genuine partnerships. As the engineer said, it is not whether you employ just-

in-time or keep stock in the pipeline, it is about cutting the lead times and this pipeline did that. Yes, it could have done more but it was a start.

Implementing Quick Response can be the start of a fight back by the local textile and clothing companies against the cheaper imports. It is a way for them to use their local proximity and build partnerships and deliver the right products at the right time and place. This is something that cheaper imports cannot deliver. Because of these reasons I believe that implementing Quick Response is a way forward for the local textile and clothing industries.

Evidence shows that Quick Response gives the textile and clothing industries a weapon against cheaper imports. Will it be enough to ensure the industries do not collapse? My research methodology does not allow me to predict whether Quick Response can save the local industries but the signs are there that it might. It forces companies to examine the way they operate, to look at ways to cut their lead times and to forge partnerships. All of these can set companies on their way to becoming sustainable and competitive in the face of falling tariffs, cheaper imports and other threats from globalisation. However, they need to implement the other elements of Quick Response as well to ensure they get optimum value from it. Companies can implement Quick Response with the help of workers and unions but then it is essential that they follow the LMC's (1996) suggestion that it be coupled with security of jobs. Workers will accept flexibility and Quick Response easier if their jobs are secure.

If the textile and clothing industries become sustainable and competitive they can ensure that, as Hunter (1990:1) says, they can prove wrong those who believe that they are sunset industries that are a drag on the overall economy.

It will also be difficult to determine whether Quick Response can save the textile and clothing industries, as I did not see the project's end results. Hence I do not have the necessary financial information to say without a doubt that Quick Response can save the industries.

6.3 Post- or neo-Fordism?

The main question this thesis deals with is whether the South African companies implementing Quick Response in an apparel textile pipeline are moving towards post-Fordism using flexible specialisation in the workplace or towards a neo-Fordist method of production.

Glimell (1991:84) does not believe that Fordism will be totally replaced by post-Fordism and more specifically flexible specialisation. He describes it as neo-Fordism where some quality production is combined with current modes of production. Kraak (1996:44-45) argues that in South Africa there is a hybrid of neo-Fordism, post-Fordism and the methods of the apartheid era.

The findings of this thesis correlate with those of Glimell (1991) and Kraak (1996). Although these companies are introducing elements of Quick Response they still make extensive use of Fordist production methods. As discussed earlier, the absence of modular manufacturing, worker involvement, just-in-time production, methods to eliminate stock keeping and partnerships shows that this is not pure post-Fordism.

The presence of manufacturing with long runs and lines, just-in-case or safety stocks, power differentials, mistrust, managerial prerogative and large wage gaps shows that these companies use elements of Fordism.

However, the presence of a reliance on the pull method, shorter lead times, improved communication and co-operation and the use of local proximity show that the companies are using some elements of post-Fordism.

It is clear that Quick Response as described in the theory is post-Fordist. However, the version used in this pipeline contains too many elements of Fordist production combined with post-Fordist methods. These companies have not made a total break with Fordism. Rather they have modified Fordism resulting in neo-Fordist methods. For that reason the conclusion of this thesis is that the companies implementing Quick Response in this pipeline is moving

towards a neo-Fordist method of production. Only when they import Quick Response as an integrated package might their methods be described as post-Fordist.

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Appendix A

Questionnaire 1 Planning

1. How did you learn about Quick Response?
2. How does your company define Quick Response?
3. How is it going to influence your company?
4. Is this different to what the theory stipulates?
5. How do the other companies in the pipeline approach this project?
6. What do you think Quick Response will do for your company? Benefits and negatives?
7. What are the links between you and the other companies in the pipeline? How will Quick Response affect this?
8. Can Quick Response help the textile and clothing industries in South Africa compete?

Appendix B

Questionnaire 2 Implementation

1. What is necessary for this to work? How would you define Quick Response? And just-in-time? And stock replenishment?
2. How do the other companies in the pipeline approach Quick Response?
3. Do you foresee any problems on their side?
4. How do you think Quick Response will change your job and your company?
5. Do you think Quick Response will improve the relations between your company and the other two in the pipeline? And between your company and the workers?
6. Do you have a capacity limit? Do you employ workers when needed?
7. Do you only make units when orders are processed?
8. Which company will benefit most from Quick Response?
9. How will you gauge the success of Quick Response at the end of the project?
10. What needs to be done in your department and company for Quick Response to be implemented? Is it worth it?

Appendix C

Questionnaire 3 Results

1. Where does the Quick Response project stand at the moment?
2. I see Quick Response as part of flexible specialisation where the environment has changed. How has this influenced your company and what strategies have you adopted?
3. When did things start changing?
4. How does international competition affect you? And falling tariffs?
5. Why do you choose a certain clothing manufacturer and textile manufacturer?
6. How do you see your company's position in South Africa?
7. Do you see amplification and volatility as problems? Do you think Quick Response will address these?
8. Do you think that your company has a good relationship with its employees? Is it going to be influenced by the project?
9. Do you think that your company is keeping up with competition?
10. What are your views in general about the relationship between the textile and clothing and retail sectors?

Appendix D

Questionnaire 4 Shopstewards at the manufacturer

1. What is Quick Response?
2. How will it benefit the company and workers?
3. What does a normal day on the shopfloor consist of for you?
4. Do you think that textile and clothing workers' jobs in South Africa are safe? What threats do you think there are? Why do other companies close?